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SUBSCRIPTION WITH
DIARY 20/- PER ANNUM.
SINGLE COPIES 9d.

No. 2326.

AUGUST 23, 1924.

Vol. CI.

"Torch" Brand

COMPRESSED TABLETS

Trade Mark

For the Discriminating Pharmacist

"Torch" Brand Compressed Tablets are of a high standard of excellence in every respect and win the appreciation of critical customers. All the ingredients used are of the "A. & H." standard of quality and purity; the tablets are accurate in dosage, constant in composition and have that fine clean finish which distinguishes tablets of the highest class. Those intended for general therapeutic effect disintegrate readily, while those which are taken for their local action on the mouth or throat dissolve slowly and evenly.

On the P.A.T.A.

	Price per 25		Price per 100			Price per 25		Price per 100	
	Per doz.	each	Per doz.	each		Per doz.	each	Per doz.	each
Aloin Compound ...	4/6	7d.	11/-	1/6	Grey Powder ... gr. ½	—	—	5/-	9d.
Ammoniated Quinine dr. ½	5/-	9d.	15/-	2/3	" " ... gr. 1	—	—	5/9	10d.
" " dr. 1	7/-	1/-	21/-	3/-	" " ... gr. 2	—	—	6/6	1/-
Ammoniated Quinine with Cinnamon ...	7/-	1/-	21/-	3/-	Guaiacum Compound (Guaiacum and Sulphur, a.a. gr. 2½)	5/-	9d.	13/-	2/-
Aspirin ... gr. 5	4/6	9d.	12/-	2/-	Laxative Vegetable Compound ...	5/6	10d.	14/6	2/3
Calcium Lactate ... gr. 5	4/6	9d.	10/6	1/9	Phenacetin ... gr. 5	6/-	1/-	16/6	2/9
Calomel ... gr. ½	—	—	5/6	10d.	Phenacetin Compound, B.P.C. ...	7/-	1/2	19/6	3/-
" " gr. 1	—	—	6/-	10d.	Phenazone (Antipyrin), B.P.C. ...	7/-	1/-	21/-	3/-
Cascara Extract ... gr. 1	3/9	6d.	9/6	1/3	Phenolphthalein (chocolate base) ... gr. 2	5/-	9d.	12/6	2/-
" " gr. 2	5/-	9d.	13/-	2/-	" " gr. 1	5/-	9d.	16/-	2/3
" " gr. 3	5/6	10d.	15/-	2/3	" " gr. 2	8/-	1/1	26/-	3/3
" " gr. 4	6/6	1/-	17/-	2/6	" " gr. 3	10/9	1/4	35/-	4/-
" " gr. 5	3/6	6d.	—	—	" " gr. 4	13/6	1/8	45/-	5/-
Chlorate of Potash tins of 40	3/6	6d.	—	—	" " gr. 5	16/6	2/2	57/-	6/6
Chlorate of Potash & Borax, B.P.C. ... tins of 40	3/6	6d.	—	—	Soda Mints ...	3/-	6d.	6/-	1/-
Eastons Syrup ... dr. ½	4/9	9d.	13/6	2/3	Sodium Citrate ... gr. 1	—	—	7/6	1/2
Formaldehyde, B.P.C. ... dr. 1	6/-	1/-	18/-	3/-	" " gr. 2	—	—	9/-	1/4
" " bottles of 50	7/-	1/-	—	—	" " gr. 3	—	—	9/6	1/6
Formaldehyde and Menthol bottles of 50	7/-	1/-	—	—	" " gr. 4	—	—	10/6	1/8
					Sulphonol ... gr. 5	10/-	1/6	32/-	4/6

Write for full list and special terms for quantities.

ALLEN & HANBURY'S Ltd
Bethnal Green,
LONDON, E.2.
Estd 1715.

WHY STOCK WRIGHT'S LYSOL?

The world wide reputation
of

WRIGHT'S COAL TAR SOAP



is the surest guarantee
that

WRIGHT'S LYSOL



will give satisfaction.

The season of greatest demand,
proclaimed by the appearance of
the house fly, is now approaching.

Wright's Lysol is so well known
that it is no longer necessary to
repeat all its properties, but—

Bacteriological methods are used
to ascertain that the standard
of efficiency is maintained.

The colour and odour suffice to
demonstrate the purity of the
cresols employed in manufacture.

Enquiries for new bonus terms
are invited. They are unusual
and very favourable.

WRIGHT, LAYMAN & UMNEY, Ltd.
SOUTHWARK :: :: LONDON.

A Speed Test.

Last Winter six Chemists tried out our 1924 Winter Line. We knew it would sell, but the point was how much "jerk" could we put into the sale—to uphold and add to our reputation.

Their sales decided our policy because they sold more than they thought was possible.

The Formula is for a 10½d. Cough Syrup.

The window display "banks" on the consumer's good

opinion of an old time homely concoction our Grandmothers made.

Where children are concerned it is a favourite, the retail price suits a mother's purse and your profit has not been restricted.

It is a good Cough Remedy, it is good value for the money, and has got that "essential jerk" in the display that makes so many chemists always prefer the methods of

THE WIGGLESWORTH WAY.

Before you lay in Winter Stocks, send for a sample, it is parcelled up ready for sending with all the usual details.

IF YOUR P.C. ARRIVES FIRST FROM YOUR
DISTRICT YOU WILL BE GLAD YOU WROTE
AT ONCE, IF YOU DON'T YOU MIGHT BE
DISAPPOINTED.

WIGGLESWORTH, LIMITED
WESTHOUGHTON
LANCASHIRE

Why it pays to push an Original —



THE RIGHT
PACKAGE

An original product is always preferred by the people who matter—they trust a name which is a household word and instinctively resent the mention of an imitation or substitute.

* * *

There's nothing "just as good" as Horlick's—the original Malted Milk.

* * *

Customers value and appreciate sound advice—that expert knowledge which is the result of long experience.

* * *

In recommending Horlick's your advice is as good as the product.

* * *

Gratified as the result of your recommendations, satisfied customers are your best assets—they gain confidence in you and come back.

* * *

Horlick's always satisfies.

* * *

The sale of Horlick's—the Original—is and always has been directed through Chemists, whilst substitutes and imitations are often exploited through other trades.

* * *

Attractive advertising material for Window Display and Counter Distribution free and carriage paid on application to the Company.



Made in England by

Horlick's Malted Milk Co., Slough, Bucks.

Three Popular Sellers that Pay for Prominent Display

"Ovaltine" Tonic Food Beverage.

"OVALTINE" is a line that is never out of season. Its sterling worth as a daily nutrient for nourishing brain, nerves and body is now known in almost every home throughout the Kingdom. Our advertising is ever before the public eye in a highly attractive and dignified form. Take advantage of our bonus terms and a wide variety of high class advertising material is always at your service.

Your present turnover in "Ovaltine" is doubtless excellent. Think how it can be added to by these further good selling lines, which are purely additive business. Link up your window and your counter with our powerful publicity. The results will please you immensely.

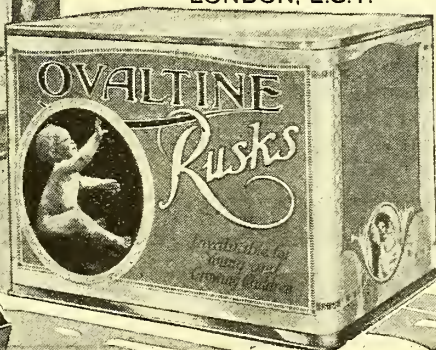
"Ovaltine" Rusks.

"Ovaltine" Rusks are now extensively advertised in the public press and the present excellent demand is rapidly increasing. Every user of delicious "Ovaltine" Tonic Food Beverage is a potential customer for "Ovaltine" Rusks. Mothers with teething infants or growing children, invalids and the aged, in addition to all those who use ordinary rusks or biscuits. Remember that "Ovaltine" Rusks possess definite advantages, inasmuch as they are more palatable, more easily digested and much more nourishing than the usual rusk or biscuit in common use.

"Ovaltine" Chocolate.

"Ovaltine" Chocolate enjoys a good sale. Are you receiving your share of this excellent business. A display box—filled with dummies—placed near the till, will make many sales without effort. TRY IT.

A. WANDER LTD.,
Manufacturing Chemists,
45, COWCROSS STREET,
LONDON, E.C.1.



"Rexall Remedies"

TRUTH IN ADVERTISING

THE recent International Advertising Convention in London very properly chose the words "Truth in Advertising" as the basis of all its discussions.

It is opportune to recall that the well-known "REXALL" medicinal Remedies and Toilet Preparations, which are sold and recommended by over 1,250 retail chemists in Great Britain and Ireland, have always been advertised and sold under the banner of truth, and in the full glare of publicity.

Almost all the Rexall preparations give a list of the ingredients on the package, and furthermore, every REXALL CHEMIST has a copy of the REXALL FORMULARY BOOKLET, showing clearly the formula of the Rexall medicinal preparations. Medical men, or members of the public, are always welcome to see the formula of any Rexall preparation in which they may be interested.

It is noteworthy, also, that on the express instructions of the founder of REXALL, Mr. Louis K. Liggett, the following announcement appears in REXALL advertising leaflets, of which many hundred million copies are circulated every year:—

In advertising Rexall Remedies extravagant claims are avoided. You are not told that any preparation will absolutely effect a cure. While that may be true in some cases, it may not be true in yours.

The Rexall Policy.

The irrefragable policy behind every REXALL preparation may be summed up briefly as follows:—

1. Honesty of Purpose.
2. Skill in Manufacture.
3. Purity of Drugs.
4. Satisfaction to the User.

REXALL Remedies and Toilet Preparations are with few exceptions **BRITISH MADE ENTIRELY.**

There are still a few areas not represented by Rexall Chemists, in which we are prepared to place additional Rexall Agencies. Enquiries from Chemists in these districts will be welcomed, and will not entail any obligation whatever on the Chemist's part. For particulars together with a copy of "The Rexall Idea" write to

UNITED DRUG COMPANY LTD.
NOTTINGHAM

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SEED DRESSING

CARBOLIZED SEED DRESSING

CHEMISTS' OWN FORMULAS.

LIQUID SEED DRESSING Non-poisonous.

Guaranteed Genuine Sulphate of Copper.

Also Agricultural Strengths.

List and Samples on Application.

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TOMLINSON & HAYWARD, LTD.
Agricultural Chemists, LINCOLN

(NO CONNECTION WITH ANY OTHER FIRM.)

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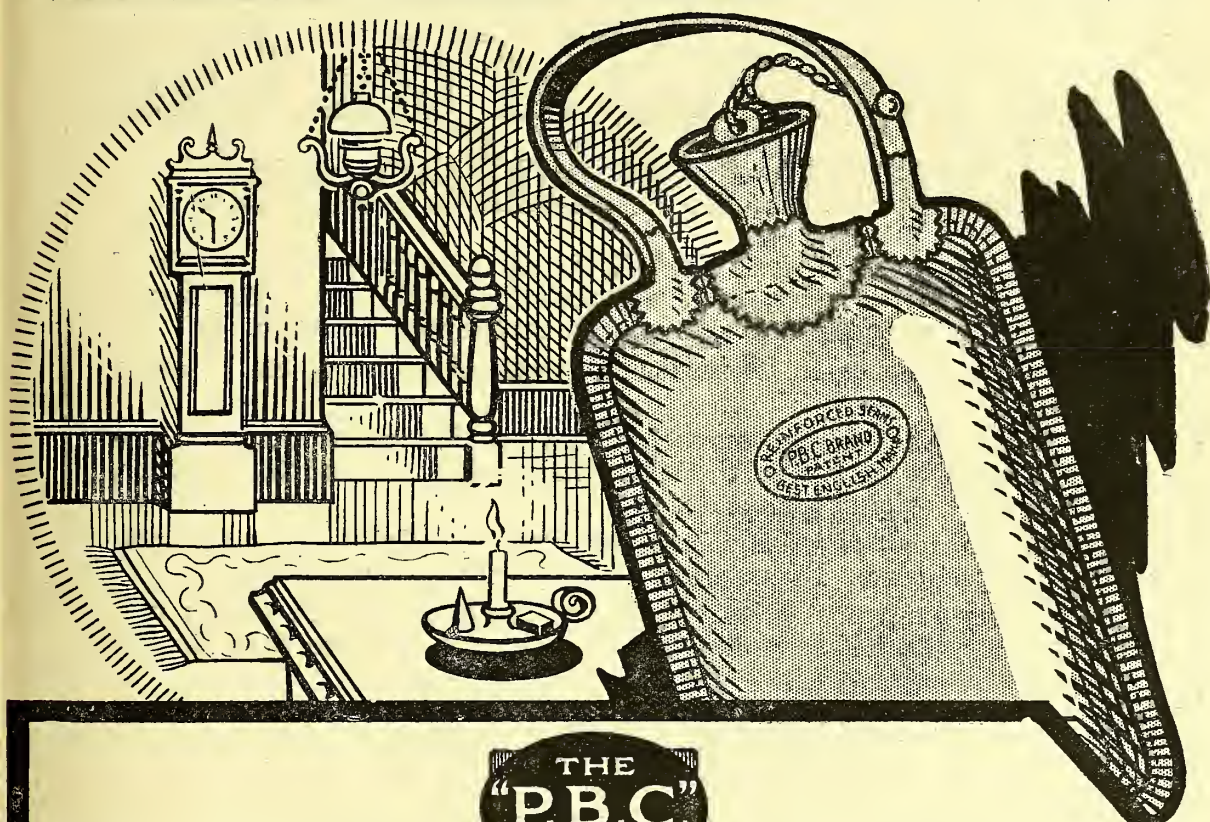
ONE'S plans for the coming winter ought to be almost complete by now. In making his plans the discriminating pharmacist cannot afford to overlook the most successful winter jube in the trade.

"CHERRY BARKS" for COUGHS

Last year they had a phenomenal success. This year they are going to supersede last. New show matter, including novel Screen Display, which sells them by night as well as by day. Cartons and decorated tins. **4 lb. Bonus with 60 lb. parcel.** Book now for September and see that you miss no sales.

"There is but one word on the great clock of time—NOW."

CUPAL LTD., BLACKBURN



HOT WATER BOTTLES

"They build goodwill"

RETAILERS who stock the "P.B.C." Brand of Hot Water Bottles do so with the assurance, backed by their own knowledge and experience, that the goods possess reliability and character, and therefore will help in the effort to build consumer goodwill.

Absolute dependability of the kind associated with all P.B. Cow & Co. products is an asset of supreme importance.

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There are many lower priced hot water bottles, but in the grade that you can recommend with confidence the P.B.C. comes easily first.

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46-47 Cheapside - - London, E.C.

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Peter Cow, Cent, London.

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City 1431 (3 lines)

The Passing of the Old Poison Disinfectant

Useful they were in their day! With all their dangers, their risk of poisoning, burning, blinding, their stains, their disagreeable odour, they nevertheless were, at one time, Science's greatest contribution to health.

But to-day Science, in its inevitable march of progress, has passed a step beyond.

The Great War, with its unprecedented demand for antiseptics and disinfectants, definitely established the hypochlorite solution as an infinitely safer, surer and more efficient germicide.

In that unhappy period a solution known as Dakin's was the generally accepted hypochlorite. Its use saved hundreds of thousands of lives.

But to-day the hypochlorite solution that Hospitals and Physicians use, that laboratory tests have proved *2 to 4 times more effective* than Dakin's Solution is

MILTON

THE SAFE WAY TO KILL ALL GERM LIFE

Numerous certificates in our possession from bacteriologists and Institutes show that Milton is 4.68 times more powerful as a germicide than pure carbolic acid.

The Pease Laboratories report that whereas the phenol co-efficient of Dakin's Solution is 1.23, that of Milton is 4.68.

The same internationally famous Institution say that Milton "shows a much greater germicidal efficiency than Dakin's Solution, even when diluted to equal strength of available chlorine."

They definitely prove that Milton is non-poisonous,
non-irritant, non-toxic to living tissue.

In every important point they find Milton showed an
efficiency, 2 to 4 times greater than Dakin's Solution. . .

As a professional man, you will find this interesting report of real value, and we shall be only too glad to send you a copy upon receipt of a postcard.

It definitely establishes Milton as the hypochlorite you can confidently recommend to your customers for household use—safe, stable, uniform, and, as the leading London and Provincial hospitals have found, a swift and certain germicide.

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also

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for veterinary use

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Di Meride E. Besano,
Meride (Suisse).

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ABSOLUTELY PURE and ABSOLUTELY SNOW WHITE.

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is carefully refined and entirely free from dross of any kind.
In slabs about 10 lb. each, also 1-lb., 4-oz., 2-oz., & 1-oz. rounds.

Celebrated for excellence and purity for upwards of three-quarters of a century.

FARRIS'S SPECIALLY REFINED PURE SPERMACETI,
Refined **MONTAN WAX** (the old-fashioned kind). **STEARIC ACID, CERESINE**

ALSO WAXES & OILS OF EVERY KNOWN KIND & FOR EVERY PURPOSE.

The only actual Manufacturing Wax Chandler in the City of London

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(Entrance also between 77 & 79 BISHOPSGATE).

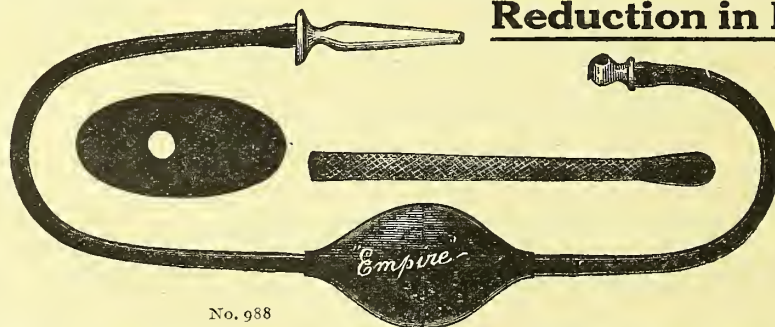
SEAMLESS ENEMAS

BRITISH MAKE.

GUARANTEED for TWO YEARS

Reduction in Prices

24/- DOZ.



24/- DOZ.

No. 988

No. 988—	PER DOZEN	s. d.
The "Empire," black polished, in card box ...	24	0
" " " in leatherette case	28	0
No. 275—		
Warne's arabesque rubber, in leatherette snap case	51	0
No. 987—		
The "B.E.M." (best English make), black polished, with bone rectal pipe, etc., in card box	23	0
" " " in superior card box	25	0

No. 987—cont.	PER DOZEN	s. d.
The "B.E.M.," in leatherette snap case ...	27	0
" " extra large and stout, the finest article made, in superior card box	30	0
" " in leatherette snap case ...	32	0
" " red, unpolished, in card box	24	0
" " " in leatherette case	28	0
" " stout, in card box	29	0
" " " in leatherette case	33	0

CARRIAGE PAID ON ORDERS OF £3 AND UPWARDS.

A discount of 5% for prompt cash is allowed on all amounts of 10/- and upwards. Money returned if goods are not satisfactory. Write for New Price Lists of Druggists' Sundries, Toilet Requisites, Rubber Goods, Cut Sheet Rubber Appliances, etc.

BURGE, WARREN & RIDGLEY, LTD. 91 & 92 GREAT SAFFRON HILL, LONDON, E.C.1

Maw's Page



Meritor Hair Brushes Make Satisfactory Sales

There is something in the name, of course. Meritor is now almost a household word. Meritor Tooth Brushes have already won tremendous popularity with the public on their quality and splendid workmanship, and Meritor Hair Brushes are doing the same.

The quality of a Meritor Hair Brush is apparent at first glance, but it is in the long service and hard wear that the quality proves itself.

A Meritor Hair Brush gives you credit when you sell it, and is giving you credit many months afterwards.

When your customer asks for a good hair brush, Meritor should be your first choice. It is the pharmacist's own brand, and it is the best hair brush you can sell. Moreover, there is such a wide range of design and prices, that you should be able to meet practically every demand for a hair brush with a Meritor.

*Keep Meritor Hair Brushes to the fore.
Let your customers know that the pharmacist
is the only person that sells MERITOR.*

		Wholesale price per doz.	Minimum retail price each.			Wholesale price per doz.	Minimum retail price each.
MERITOR PURE BRISTLES							
BM.1	10 rows Long Oval, Ball Cut 1½ inches ...	124 -	15 6	EM.4	9 rows Skittle shape, High Cut 1½ in., Ebony back ...	100 -	12 6
BM.9	8 rows Long Oval, Flat Cut ¾ inches ...	100/-	12 6	M.9	8 rows Long Oval, Flat Cut 1½ in., Satin back...	68/-	8 6
BM.10	11 rows Broad Oval, Flat Cut ¾ inches ...	100/-	12 6	EM.9	8 rows Long Oval, Flat Cut 1½ in., Ebony back ...	84/-	10 6
BM.20	13 rows Round, Flat Cut ¾ in.	124/-	15 6	M.10	11 rows Broad Oval, Flat Cut 1 in., Satin back ...	68 -	8 6
BM.12	Military, 11 rows, Flat Cut 1 inch ...	124/-	15 6	EM.10	11 rows Broad Oval, Flat Cut 1 in., Ebony back ...	84 -	10 6
	1 pair in Leather Case with Comb ...	25 8 all	38 6 all	M.20	14 rows Round, Flat Cut 1½ in., Satin back...	84 -	10 6
MERITOR SPLIT HORN							
M.1	10 rows Long Oval, Ball Cut 1½ in., Satin back ...	doz. 84 -	each. 10 6	EM.20	14 rows Round, Flat Cut 1½ in., Ebony back ...	doz. 100 -	12 6
EM.1	10 rows Long Oval, Ball Cut 1½ in., Ebony back ...	100 -	12 6	Military.	M.12 11 rows Flat Cut 1 in., Satin Screwed back	68/-	8 6
M.2	9 rows Long Oval, Medium Ball Cut 1½ in., Satin back	84/-	10 6	Military.	EM.12 11 rows Flat Cut 1 in., Ebony back...	84 -	11 -
EM.2	9 rows Long Oval, Medium Ball Cut 1½ in., Ebony back	100 -	12 6	1 Pair	M.12 in Leather Case with Comb ...	16 4 all	24 6 all
M.4	9 rows Skittle shape, High Cut 1½ in., Satin back ...	84/-	10 6	1 Pair	EM.12 in Leather Case with Comb ...	19 - all	28 6 all

S. Maw, Son & Sons, Ltd.
Aldersgate St., London,
and Barnet.

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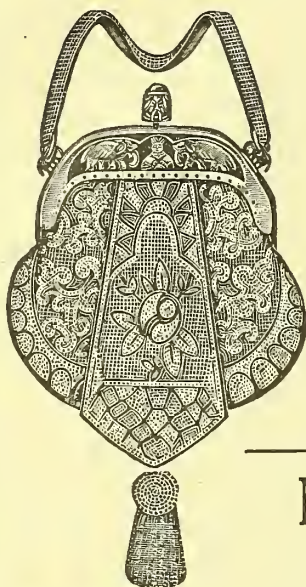


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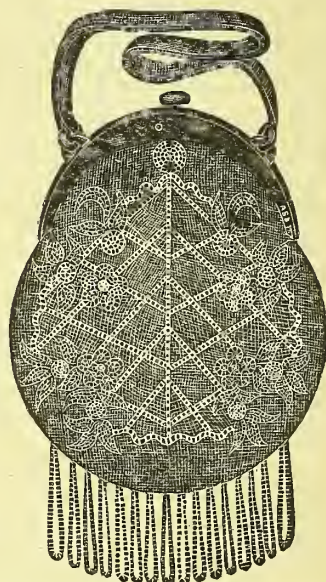
BEADED BAGS

from **4/6** each

A GREAT VARIETY OF
LEATHER
Hand-Bags and Pochettes
from **1/-** each

Manicure and Vanity Cases

NOVELTIES
OF ALL DESCRIPTIONS



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Peldo
(Patent applied for)

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INVISIBLE
GLOVE**

We are showing at the B.E.E. Stand No. A 76, Chemical Section, Palace of Industry, and would be pleased to receive a visit from you there, where you can have a practical demonstration of Peldo.

IF YOU SHOW 'PELDO' YOU WILL SELL IT!
'PELDO' IS ORIGINAL. It is not a Substitution for Anything.

Obtainable from all the Patent Houses @ **13/6** per dozen.
WINDOW DISPLAY MATERIAL FREE ON APPLICATION.

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THE SHAVER'S LUXURIES

KROPP RAZOR

ALWAYS
READY
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EACH
RAZOR IN
A CASE

MADE AND GROUND IN SHEFFIELD, ENGLAND.

NO RAZOR GENUINE UNLESS STAMPED

ON ONE SIDE:—"KROPP."

REVERSE SIDE:—"MADE AND GROUND IN SHEFFIELD, ENG."

KROPP DUPLEX HANGING STROP



Specially Prepared Canvas and Leather.

KROPP CUSHION STROP

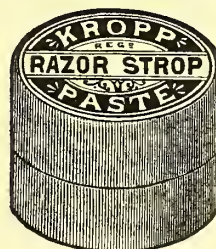
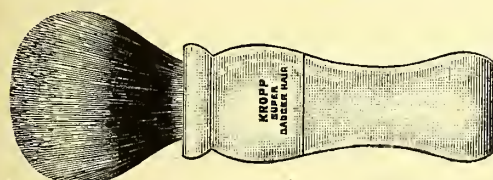


KROPP DUPLEX RAZOR STROP



KROPP SUPER BADGER HAIR SHAVING BRUSH

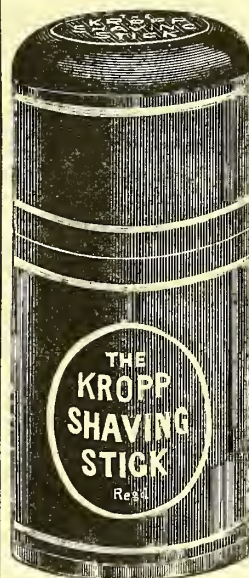
Made of the best Super Badger Hair and Finest White Bone. The pattern is the best—the cup prevents soap running down the handle of brush. The manufacture is the very highest class.



KROPP RAZOR STROP PASTE

For preserving the Strop, and imparting a keen edge to the Razor. In METAL BOXES, as illustration.

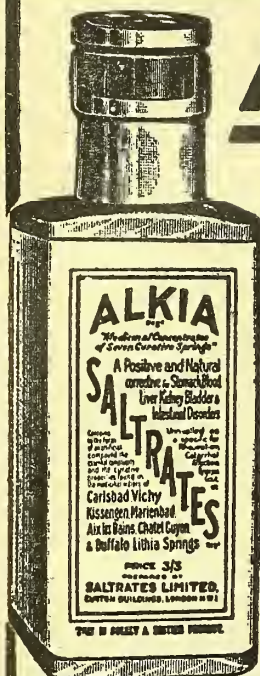
KROPP SHAVING SOAP



This Soap is especially manufactured for shaving. It is pure soap of the finest quality, and is agreeably perfumed. It produces a good creamy lather, softens the beard, and is cool and seductive to the skin.

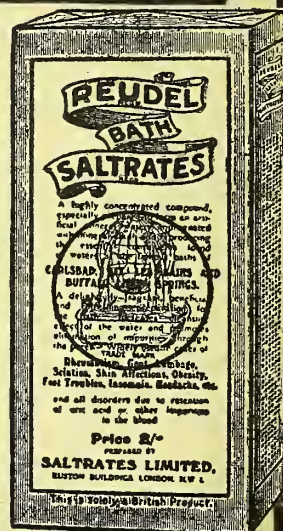
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Reliable Lines that Facilitate Business

***They Always Satisfy the Customer.
One Sale Brings More Sales.***



ALKIA SALTRATES

The most efficient Saline on the market and the best value for the money. Pleasant tasting and always satisfies the user. Widely advertised for Rheumatism, Gout, Sciatica or any Liver, Kidney, Stomach, Intestinal or Blood Disorders, Catarrhal Affections, etc.

SELLS AT 3/3 (P.A.T.A.)

REUDEL BATH SALTRATES

The best selling and most fragrant, refreshing, beneficial and all-round satisfactory preparation for the bath. Especially recommended in cases of Foot Troubles, Rheumatic Pains, Stiffness, Strains, Sprains, etc. Always extensively advertised.

SELLS AT 2/- AND 3/3 (P.A.T.A.)

Sent to YOU on Guaranteed Sale Terms

Free Bonus

Free Cases

Free Carriage

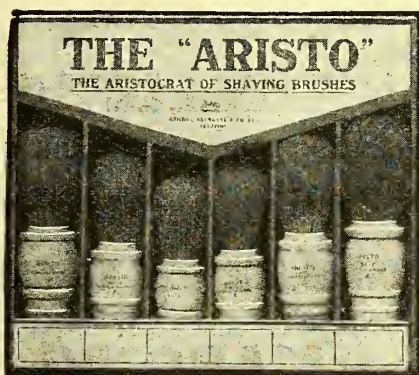
Carriage Paid and Free Cases in United Kingdom on orders for 3 dozen, which may be assorted. Showcards of strong selling power sent free on request. Display them in your window and attract further business from our present extensive advertising campaign. Write for particulars of our Special Bonus Terms for WINDOW DISPLAY.

Alkia Saltrates & Reudel Bath Saltrates are as near perfection in their respective fields as it is humanly possible to get them regardless of cost or selling price. After you make the first sale they go on selling themselves.

SALTRATES LIMITED, EUSTON BUILDINGS, LONDON, N.W.1.

The Handles won't crack and the Bristles are there for ever

This sample case 22/- post paid. Contains
one each of the six sizes.



White handles which will not split under the most exacting tests. Specially recommended for Export to all parts of the World irrespective of extremes of climate.

EXPORT ENQUIRIES INVITED.

THAT five minutes in the morning, needed for shaving, is a time of intimate friendships. How a man cherishes his favourite razor, probably the oldest and the poorest looking in his collection. Then the brush—the man who shaves *knows* that comfort depends upon the brush. The 'ARISTO' SHAVING BRUSH never cracks—hot water does not bring up a nasty dirty grain—it never sheds its badger, and after a year's use it remains full, even and soft. It's a brush a man *can* make a friend of, and the Chemist who supplies it gets a reputation for reliability which entices the customer back for other goods.

'ARISTO' SHAVING BRUSH

Mixed Badger and Bristle

Size	1	2	3	4	5	6
	28/-	36/-	42/-	48/-	54/-	60/-

(Handy counter-case as illustrated,
One of each size as above, 22/-)

Best Badger. Selected material only.

		Small	Medium	Large
per doz.	...	72/-	102/-	144/-

The 'Aristo' Junior. A small handled brush easily packed in tube for the travelling bag or dressing case.

One size only per doz. 28/-

AYRTON, SAUNDERS & CO. Ltd.

34 Hanover Street Telegrams: "Sundries, Liverpool." LIVERPOOL, Eng.

LOOK TO YOUR STOCKS.

A LARGE AMOUNT IS BEING EXPENDED ON ADVERTISING

LAMPLOUGH'S PYRETIC SALINE

On the P.A.T.A.

Over a Century's Medical Reputation.

The original Saline. It differs from all others. Test the resulting solution from Lamploughs for acidity, and then compare it with other makes. You will find no free acid in Lamploughs.

The Public always insists on having the Original.

MINIMUM GUARANTEED PROFIT OF 33 $\frac{1}{3}$ % on COST PRICE

New selling prices 2/6 and 4/6 per bottle.

SPECIAL WHOLESALE TERMS FOR QUANTITIES AND FOR EXPORT.

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HENRY LAMPLOUGH'S SALINE 1 EDEN STREET, HAMPSTEAD ROAD,
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Telephone: MUSEUM 160.

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HARROGATE HEALTH SALTS

"IF YOU CANNOT GO TO HARROGATE
LET HARROGATE COME TO YOU."

This is the advice you must give to your customers when they ask for relief from conditions of health which would be cured by a visit to England's Premier Spa.

These Salts act on the system in the same way as the Harrogate Waters.

"Take them regularly and so achieve
'THAT HARROGATE SENSATION'
which indicates renewed vigour and vitality."

TWO SIZES.

Price 110/- per gross tins. Retail at 1/2 ea.

" 60/- " " 7 $\frac{1}{2}$ d. "

from the

HARROGATE TABLET CO., LTD.
CHATSWORTH GROVE, HARROGATE.

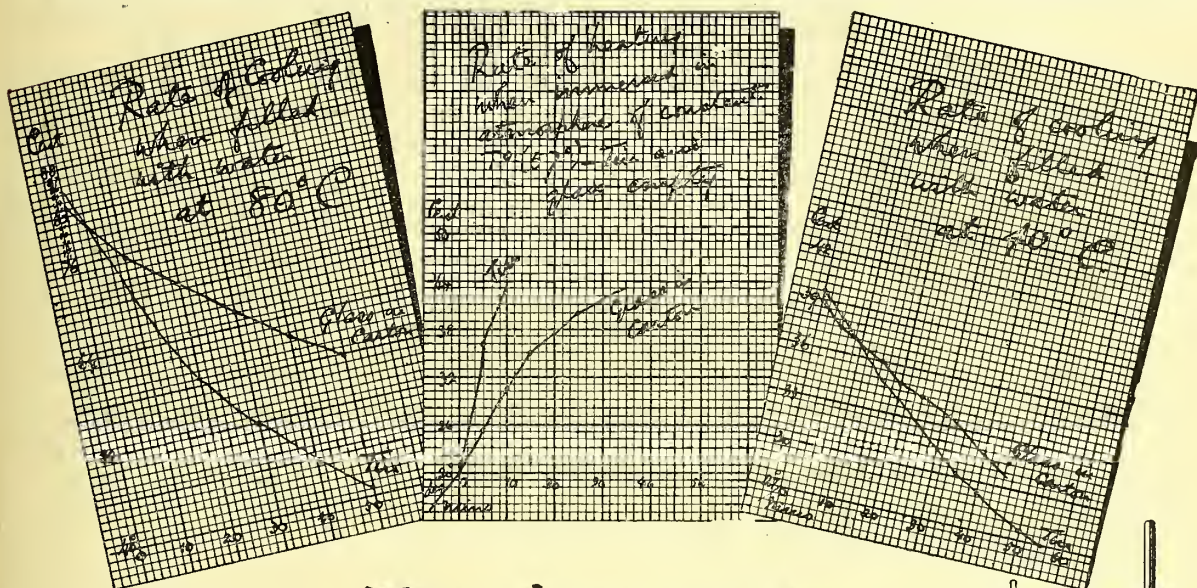
NOW IS THE TIME TO ORDER

MASON'S EXTRACT OF HERBS

Newball & Mason
NOTTINGHAM



"Good! It's Mason's!"



A drastic test for damp-resistance.

Various packages were filled with "Mineral Spring" and immersed in water, lids downwards, for 24 hours.

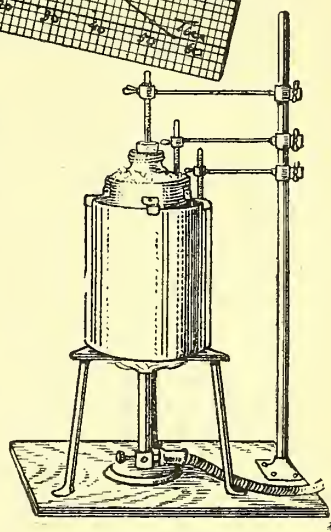
The choice of the new package for

MINERAL SPRING

TRADE MARK

HEALTH GRANULES

was the result of many careful laboratory tests



One of many tests for heat-resistance.

Various packages were placed in a Calorimeter and the rates of temperature increase charted and compared.

THE problem of finding a package which offered great resistance to external heat and moisture at a moderate cost was solved by the adoption of a glass bottle with a heavily waxed pad inside the cap, enclosed in a carton, but separated from it by a corrugated lining.

There has been no change in the granules themselves. "Mineral Spring" is still the same "Chemist's Own Effervescent" that it has always been.

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BARDSLEY VALE, LANCASHIRE,
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ESTABLISHED 1797

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COD LIVER OIL

GUARANTEED GENUINE. FINEST PURE LOFOTEN.

Manufacturers:

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LARGEST MANUFACTURERS OF COD LIVER OIL IN NORWAY.

Stocks always held in London.

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Malt & Oil

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Established 1886.

BELFAST—31 Antrim Road.

ATKINSON & BARKER'S INFANTS' PRESERVATIVE

THE BEST AND SAFEST INFANTS'
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Prices and Terms on application to **R. BARKER & SON, Ltd.**
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**DOES
NOT
CONTAIN
any
SCHEDULED
POISON.**

Important Note
to Chemists
without Licenses

It has been established by law that Registered Chemists may sell Wincarnis with Quinine without a License.



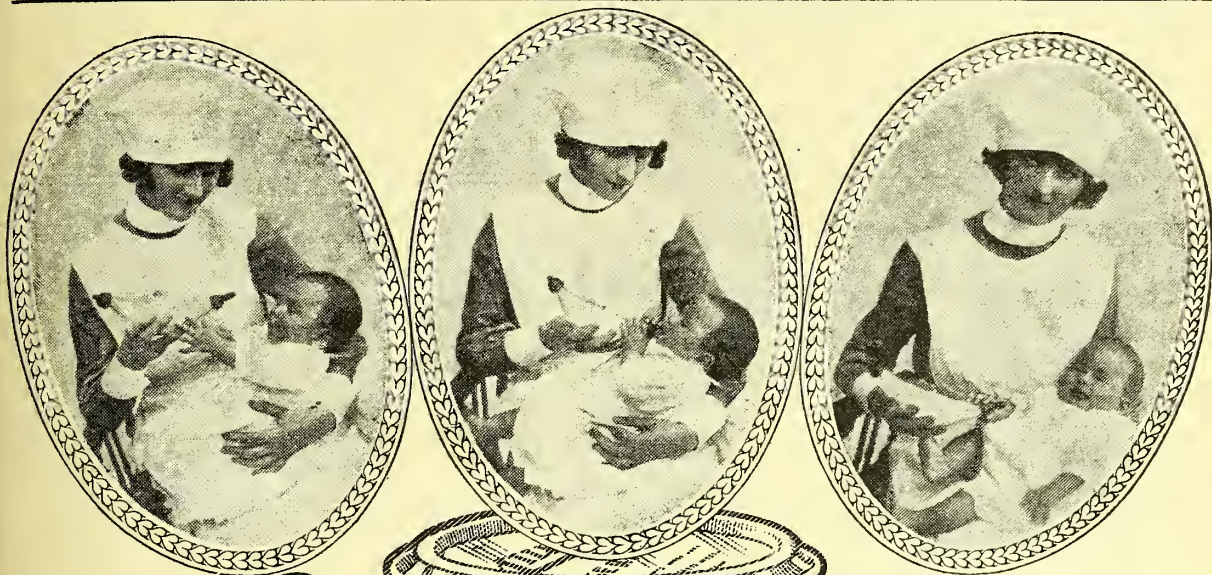
**Sells readily ALL
the time.**

COLEMAN & CO., Ltd., Wincarnis Works, Norwich

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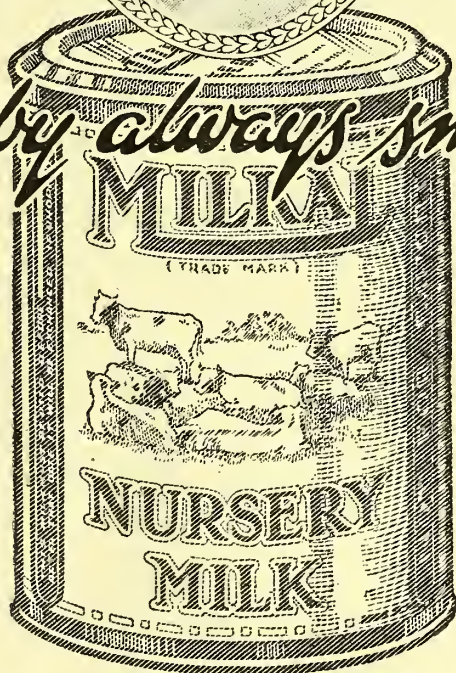
Large Size **5/-**

Small Size **3/-**



Baby always smiles

Just because his food always agrees with him. There is no better food for baby than milk—just milk, not patent “preparations.” But it must be clean milk.



Milk free from those disease-carrying bacteria; milk with all the essential life-giving, health-producing properties retained. And it's so convenient to use, too; mixes readily with cold or hot water.

CLEAN DEVON MILK

—after human milk—is baby's best food. MILKAL is clean milk—DRIED full-cream milk—straight from Devon in a tin.

The following are extracts from recent letters received from members of the nursing profession.

<p>“I have given Milkal a very good trial in every form and find it THE MOST PERFECT FORM OF DRIED MILK one could wish for.” Nurse (Ref. 151).</p>	<p>“I shall always advise my patients to use Milkal—as it is FAR SUPERIOR TO ANY OTHER MILK I have tried.” Nurse (Ref. 153).</p>	<p>“AN EXCELLENT DRIED MILK. I shall certainly not hesitate to recommend Milkal for infants requiring artificial feeding and also for expectant and nursing mothers.” Nurse (Ref. 152).</p>
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The qualities of Milkal are such that every tin sold is a recommendation not only for Milkal itself, but the shop that sells it, WRITE FOR TRADE TERMS TO THE SOLE DISTRIBUTORS;

MILKAL LTD

31 St. Petersburg Place, Bayswater, London, W.2

Produced and Packed in Devon (England), by MILKAL, LTD., London and Devonshire.



Exclusively for Chemists

The sales policy of Trufood is consistent. Propaganda, whether to the medical profession or to the general public, indicates that the food is:

Obtainable from all pharmacists in 20-oz. tins at 4s. 9d. There is no other channel of supply open to the public.

Continuous propaganda to the medical and nursing profession is creating increasing demand. The principal scientific journals carry whole-page announcements each week for Humanised Trufood, in which the claim is boldly made that it is the closest equivalent to breast milk available for the physician or nurse who is called upon to advise on the choice of an artificial food when hand feeding becomes necessary.

The progressive pharmacist will weigh the claims made for Humanised Trufood in the light of the following figures:

	Breast Milk	Cow's Milk	Humanised Trufood
Lactose	6.5	4.7	6.25
Fat	3.3	3.5	3.45
Casein	0.9	3.0	0.80
Lactalbumen	0.4	0.3	0.60
Salts	0.2	0.8	0.65
Water	88.7	87.7	88.25
	100.0	100.0	100.00

Humanised Trufood supersedes the old malt, malt and milk, and ordinary dried milk preparations previously offered.

You should keep at least a minimum stock to meet the growing demand.

If you are not carrying Trufood, write to-day for samples and special trade offer

You are invited to apply for reproduction of actual photograph (in colours) of a recent incubation test of various milks. This is obtainable either by post or at the TRUFOOD STAND (Nos. 122/3 and 132/3) at the London Medical Exhibition.

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TRUFOOD LIMITED

The Creameries, Wrenbury, nr. Nantwich, Cheshire

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BRAND'S ESSENCE

of Beef, Mutton or Chicken consists solely of the juice of the finest meats, prepared with the greatest care under the most hygienic conditions.

Essential in the Sick Room.

Sold by all Chemists and Stores.

BRAND & CO., LTD.

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Saint-Raphael

Tonic, Restorative, Digestive Wine.

Known throughout the World, and prescribed in all cases of ANÆMIA, DEBILITY, and CONVALESCENCE, to Young Women, Children and the Aged.

DOSE: One wine-glass after the two principal meals.

Recommended by—
PROF. BOUCHARDAT, Professor of Hygiene, Paris Faculty of Medicine.
DR. MACNAUGHTON JONES, London, England.

"For more than thirty years St. Raphaël Wine has been exclusively prescribed, with success, in the Paris hospitals as a pure tonic, by eminent physicians, such as Magendie, Roson, Chomel, Velpéau, Requin, Monneret, Trousseau, Grisolle, Laënnec, &c."—*Union Médicale*, May 8 and June 12, 1873.

"The 'Vin de St. Raphaël' is often used for ladies nursing their own children; it is preferable to stout, which creates an unhealthy fat."—*The Lancet*, London, England.

"St. Raphaël Wine is most precious in all cases where it is necessary to give tone to the system, without effort or shock."—DR. C. DES BARRES.

Cie du VIN SAINT RAPHAEL, Valence, Drome, FRANCE

To be obtained from all Wholesale Druggists.

IRVONA

THE MOST POPULAR NERVE TONIC
AND FLESH BUILDING TREATMENT.



A large and regular advertising campaign to support the sales of Irvona is guaranteed, and every chemist should carry stock and let the public know that he does so in order to share in the growing boom in this excellent product. Neat and attractive Show Cards, 11" x 4½", sent on application.

The trade prices are :—

1/3 size "IRVONA,"	12/- per doz.
5/- "	48/- "
12/- "	115/- "

The old sizes (3/- and 15/-) have been withdrawn, and any chemist still having stock of these should return them to me. They will be credited in full and exchanged for the new sizes.

IRVOLAX (the safe aperient) is also being asked for, and the prices are 1/3 size 12/- per dozen: 3/- size 29/- per dozen.

Obtainable through the usual wholesale houses, or direct against cash or usual trade references.

P. J. WILLIAMS

27 Finsbury Street, LONDON, E.C.2

VITAMOGEN

(VITAMINES)

INVALUABLE FOR
SLEEPLESSNESS
NERVOUS DISORDERS
CONVALESCENCE
AND
INFANTS.

Retail Price - - 2/- and 4/6.

To be obtained of All
Chemists, or direct from

VITAMOGEN, Ltd.

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24/26 Holborn, LONDON, E.C.1.

A word to chemists who realise the importance of good looks in what they sell.



MALT EXTRACT

Before you contract for
your season's supply

SEE WHAT GOODALL'S HAVE TO OFFER

PROBABLY you know our unique 'Script' series—the best-looking series of specialities that the chemist can buy—so that when we tell you that our latest Malt Extract pack belongs to that series you will know that it is really

a pack far out of the ordinary

But please don't imagine that because it's good-looking it's dear. Not by any means. We sell so much Malt Extract nowadays that we can offer all our various packs at prices no one can better. Further, we print your OWN NAME perfectly into these fine labels at no extra charge.

Will you therefore be good enough—in your own interest and ours—to ask us to send you quotations before you buy? If they aren't right, of course you won't buy, but if they are you will be obtaining the best grade, best-looking Malt Extract at a price that will enable you to compete with anyone.

Send a card for the GOODALL price to-day

Goodall Backhouse & Co., Leeds



Gold Medal. Cannes DE L'ILE NOTRE DAME Philadelphia

ESSENTIAL OILS

<p>BERGAMOT LAVENDER Cinnamon Cloves Eucalyptus Lemon Lemongrass Petitgrain</p>	<p>GERANIUM NEROLI OTTO OF ROSE Portugal Peppermint Rosemary Santal Thyme Verbena, etc.</p>
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FLORAL OILS

Highly concentrated oils, manufactured direct from the flowers by our special "enflourage" process. Can be diluted down with Mineral Oil to any strength for the preparation of Brilliantines.
IN ALL ODOURS.

FLORAL WATERS

ROSE ELDER FLOWER
ORANGE FLOWER

Distilled direct from the flowers.

PERFUMES

of every kind.

BULK or BOTTLED

All our perfumes are made with natural floral bases, which are manufactured from the fresh flowers grown on our own plantations.

Can be supplied in all degrees of concentration and for all purposes.



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The World-Renowned Makers of
FIRST QUALITY ESSENCES.

<p><i>Stocks</i> <i>in</i> <i>London.</i></p>	<p>PEACH APRICOT HONEY MAPLE &c.</p>	<p><i>Ask for</i> <i>Quotations</i> <i>& Samples.</i></p>
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Perfume ...	8/-
Powder ...	2/6
Soap (per box) ...	7/6
Sachet ...	1/-


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Perfumes by Roger & Gallet are preferred by the discriminating among your customers. LE JADE is especially highly favoured.

Roger & Gallet
PARIS

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"Zinyl" Brand (Regd.)

 Our Synthetic Ottos are wonderfully economical in the manufacture of all toilet preparations.

"The Synthetic Otto of Rose is especially good, and has given the greatest satisfaction to even the most exacting critics."
—*Perfumery and Essential Oil Record.*

"This product has a remarkably sweet rose odour, quite free from any objectionable smell of rose geranium. . . . A triumph of modern synthetic chemistry."—*The Chemist and Druggist.*

ORIENTAL SYNTHETIC OTTO

"ZINYL" BRAND

Extract from a Correspondent's letter :

"This Oriental Synthetic Otto is a most beautiful and striking odour, absolutely reminiscent of the Far East, and we like it very much indeed ; it is excellent when used in the manufacture of face powders and cold cream."

H. E. STEVENSON & CO.

122 Great Suffolk Street, LONDON, S.E.

CUSSONS

LONDON & MANCHESTER.

Mists of the Moon

An "en suite" Series of
Perfumes of great charm

TO their long list of triumphs Cussons have added "*Mists of the Moon*." In the production of this series Cussons have incorporated all the refinements that only a long experience can teach. The quality is unmistakable; the value unsurpassable. "*Mists of the Moon*" fills a niche in the demand for a distinctive, rare scent that, while being exclusive, can yet be sold at a popular price.

A CUSSONS LINE THAT IS
A PLEASURE TO HANDLE

The "MISTS OF THE MOON" BEAUTY COFFRET (miniature size) is one of those adjuncts to beauty which every woman needs—an artistic case containing bottle of Perfume (full size), Solid Face Powder com-

33 $\frac{1}{3}$ %
PROFIT

plete with Puff in aluminium box, and Vanishing Cream, also in aluminium box. The Bottles, Jars and Packages of this Series are in every way in keeping with such a distinctive perfume.

Mists of the Moon

PERFUME, 3/6 & 4/6 per bottle; DAY CREAM and NIGHT CREAM, 1/- per jar; COMPLEXION POWDER (4 tints) Solid (5 tints), 1/- per box; BEAUTY COFFRET (miniature size), 1/6 per case.

Above are retail prices of "Mists of the Moon" Series; price to the pharmacist is 33 $\frac{1}{3}$ % below these prices.

Obtainable from any reputable Wholesale House.

CUSSONS, SONS & CO. Ltd.

Makers of Fine Toilet Soaps and Perfumes
KERSAL VALE WORKS, MANCHESTER



Most called for
of its class

Price's Old English Lavender Soap has many imitators, but it remains the most called-for line of its class.

It is kept well before the public by strenuous and consistent advertising.

Send for a selection of display material.

PRICE'S SOAP CO. LTD. LEVER HOUSE, BLACKFRIARS, E.C. 4

"Specialty" Otto COLD CREAM

YOUR customers require Quality, Purity and Moderate Prices. If you stock goods that come under this category you automatically ensure yourself rapid and ever-increasing profits.

"Specialty" Otto Cold Cream is guaranteed for Quality and Purity, all the ingredients used in manufacture being carefully selected from the finest materials procurable.

"Specialty" Otto Cold Cream has an additional appeal to the public due to the attractive manner in which it is packed.

We will gladly send you samples and prices.

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All B.P. and unofficial ointments are made from the best ingredients by the most up-to-date machinery ensuring a smooth, high quality product. Sold in bulk or packed in attractive decorated tins and screw capped glass and opal jars. Send for Samples and Price Lists.



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Telephones:

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EVERY

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Trade Mark.

**SOLD**

Means **33 $\frac{1}{3}$ %** Clear Profit
And Another Satisfied Customer

Profit and a satisfactory service to your customers are the means by which your business progresses—

THEREFORE, SELL "Beaverpufs"

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**PAPIER POUDRÉ
POPPÉE ROUGE**

Made in Booklet Form in White, Rose and Rachel tints.
4d., 6d., 8d., and 1/4 sizes at 2/8, 3/8, 5/- and 10/- per dozen
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ONE SIZE ONLY 1/-, at 8/- per dozen.

Sole Proprietors and Manufacturers:

PAPIER POUDRÉ, Ltd., 46 Baker Street, W.1
NONE GENUINE WITHOUT ABOVE TRADE MARKS.



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Provincial Exhibitions Ltd., City Hall, Manchester

Pure English Oil of Peppermint
GROWN ON MY OWN FARMS

£1,000 TO CHARITY

*I will give £1,000 to any Charity named by any person
who can prove my Peppermint Oil to contain any
adulterant or foreign oil.*

INSPECTION OF FARMS AND DISTILLERY CORDIALLY INVITED.

Seymour's Distillery & Herb Farm, Holbeach, Lincs.

WARNING!

IT has come to our notice that a quantity of "KOKO FOR THE HAIR" which was shipped to the Dutch East Indies four years ago is now being offered on the English market.

We would point out that this Koko has, owing to the tropical climate, doubtless deteriorated, and also that it is packed in export cartons which with the labels and literature are printed in the Dutch language. We shall endeavour to stop any shipments at the port of entry and to have the goods confiscated.

The same remarks apply to Koko which may be imported from Belgium, the cartons and labels in this case being printed in the French language.

KOKO-MARICOPAS COMPANY, LTD.

16 BEVIS MARKS

LONDON, E.C.3

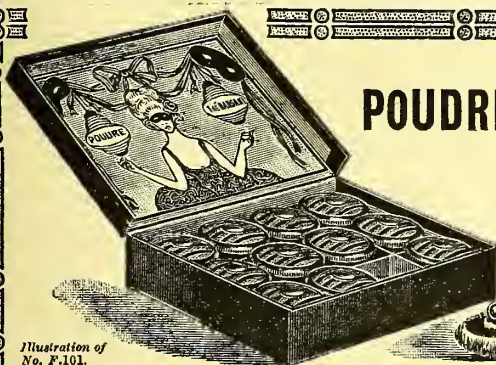


Illustration of No. F.101.

BIG REDUCTION IN PRICE

POUDRE COMPACTE—"THÉ DANSANT"

(Regd.)

In two } No. F.100 Complete with Puff .. 6/- doz.
styles } „ F.101 „ „ „ and diminishing Mirror 7/6 „

Improvements in our methods and the adoption of more efficient machines designed by ourselves enable us to decrease considerably our production costs of these two charming lines, and we pass on the reduction to the trade so as to keep our increased output fully engaged. You should give these British-made lines a trial.

Manufactured only by
SOLPORT BROTHERS, Ltd.
184/190 Goswell Road, London, E.C.1.
and obtainable through all Wholesale Houses.

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REGD.
SUPERSEDES
Soap

GLEANS PAINT
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GLEANS CARPETS,
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REMOVES
GRIME
FROM HANDS.



THE PRODUCT WITH A MULTITUDE OF USES

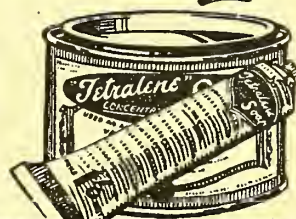
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Apart from the exceptionally generous percentage of profits allowed the retailer with samples for distribution, a huge selling and advertising campaign will shortly be launched in the newspaper press and an enormous public demand created in your district. Be prepared by laying in a stock now.

Sample, Trade Terms, etc., supplied on request.

STOCKPORT UNITED CHEMICAL CO., LTD., STOCKPORT, ENGLAND.



DEARBORN (1923) LTD.

37 Gray's Inn Road, London, W.C.1

Toilet Specialties.

	Price per doz. to Retailer P.A.T.A.	Selling Price
PILENTA SOAP ...	10/-	1/-
A complexion soap.		
PROLACTUM ...	10/-	1/-
For the lips.		
PARSIDIUM JELLY ...	10/-	1/-
For wrinkles.		
ALLACITE OF ORANGE		
BLOSSOM ...	22/6	2/6
A dressing cream.		
BORANIUM ...	22/6	2/6
A hair tonic.		
CLEMINITE ...	22/6	2/6
For a face lotion.		
COLLIANDUM ...	22/6	2/6
For a face tint.		
PERGOL ...	22/6	2/6
A deodorant.		
TEKKO PASTE ...	22/6	2/6
Camphor cream.		
STALLAX ...	22/6	2/6
For a shampoo.		
JETTALINE ...	31/6	3/6
For clearing the skin.		
PHEMINOL ...	36/-	4/-
A depilatory.		
MENNALINE ...	36/-	4/-
For the eyelashes.		
MERCOLIZED WAX ...	18/- 31/6	2/- 3/6
A face cream.		
STYMOL ...	36/-	4/-
For oily complexions and blackheads.		
SILMERINE ...	22/6	2/6
Hair-curling fluid.		
BARSYDE ...	22/6	2/6
Dandruff eradicator.		
TAMMALITE ...	22/6	2/6
For grey and faded hair.		
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To check excessive perspiration locally.		
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For figure development.		

The Products of

Messrs. PARKER, BELMONT & CO.

CLYNOL BERRIES ...	36/-	4/-
For obesity.	58/6	6/6
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LIQUID NAIL POLISH ..	10/-	1/-
Brilliant and lasting.		

Stocked by ALL Wholesale Houses.

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India: FRAMJEE & SON, Bombay.
 A. L. CHOUDRY, Calcutta.
New Zealand: SHARLAND & CO., Auckland and Wellington.
South America: DEARBORN (South America) Ltd., Calla Salta 264, Buenos Aires.
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INVENTED 1893.

One Bottle
Preparation.

Harmless to use.

IN FIVE SHADES:

Light Brown
Brown
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Retail 2/-

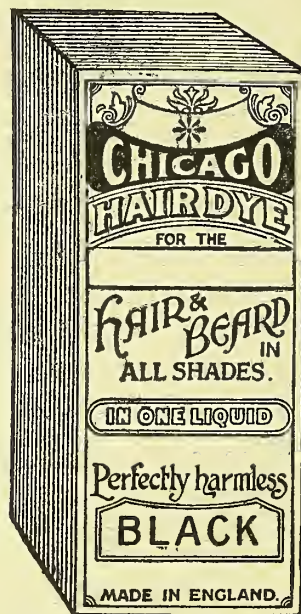
Cost 11/- per doz.

Profit over 100%
on cost.

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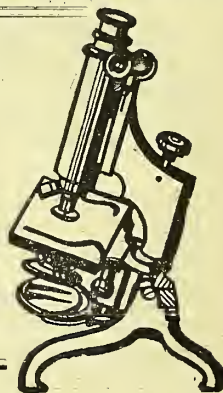
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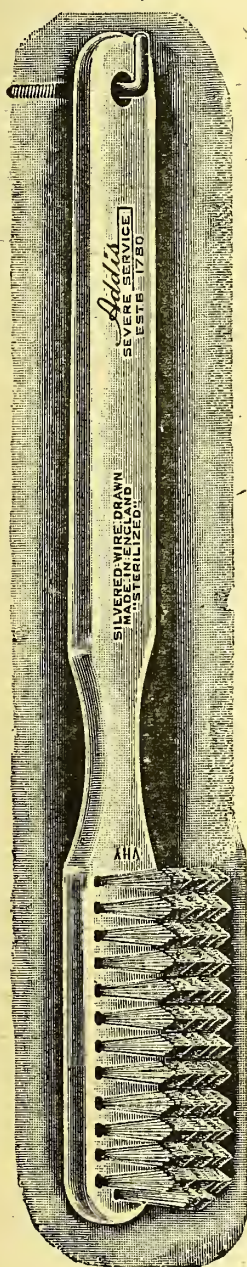
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Chemists by Examination,
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Trade Terms, Showcards, Leaflets, etc.,
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The First Tooth Brush

**ADDIS
SEVERE SERVICE**
Estb. 1780.



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was made in 1780 by WILLIAM ADDIS in London, England. The business then founded has been carried on continuously, passing direct from father to son. The policy of the business has always been "Service" to user.

When purchasing a Tooth Brush, should you require a stiff brush for Severe Service, ask for

"Addis
Severe Service"

This is typically an English Style Gentleman's Brush, made of Unbleached Bristles, with small serrates on a plain straight handle.

For those who require a smaller and more stylish brush the

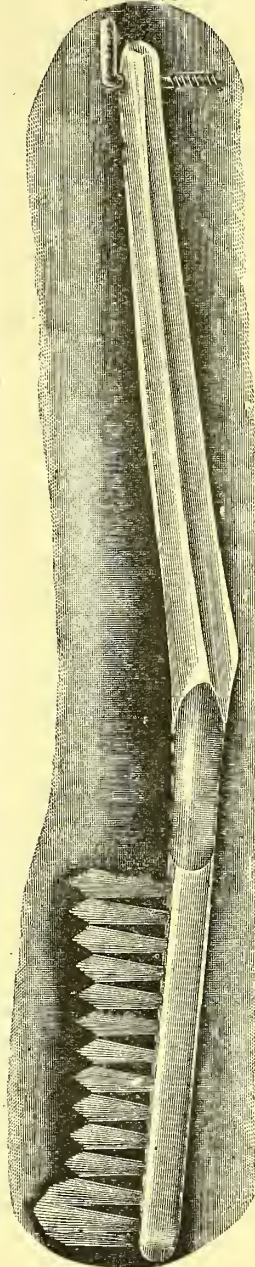
"Addis
Prophylactic"

on a curved handle, will fill the want. This brush is made in Very Hard Unbleached Bristles, Hard White, Medium White, and Soft if required. We recommend the Hard for the average use, bristles always being softer when wet.

Both these brushes are hand-fashioned and hand-drawn, the best materials and methods of workmanship being used regardless of cost.

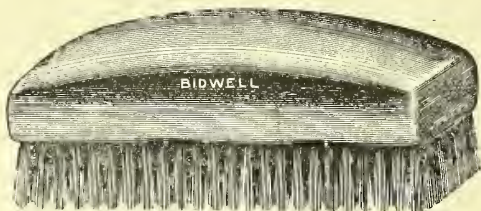
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CONCAVE AND CONVEX BACKS IN BOTH SOLID
SATIN WOOD, AND ENGLISH BEECH WOOD
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Every Brush Guaranteed.

EACH BRUSH PACKED IN ATTRACTIVE CARTON
FROM 10/- TO 144/- PER DOZEN.

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A LINE that has caught the popular fancy
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high Rideal-Walker co-efficient. Gives a
good profit to the Pharmacist.

PRICE - - 6/- per dozen
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*Artistically mounted on a suitable
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Are known the World over as
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BEST BRITISH BRUSHES

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SELF - FIXING BOTTLE CAPS

Transparent, Opaque,
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Packed
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Price List



FROZEN EAU DE COLOGNE

IN GREEN GLASS JARS
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POLISHED METAL CAPS.

TWO SIZES.

LARGE	-	-	20/-	per dozen
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DEVON VIOLETS AND KENTISH LILIES

IN WICKERED GLOBE
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19/-	32/-	55/-	96/-	186/-	354/-
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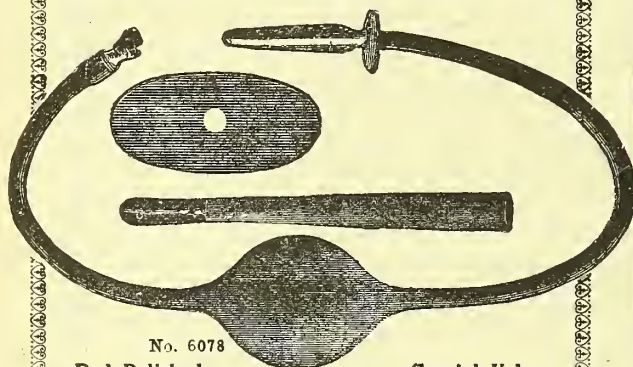
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Rectum Pipe, Vaginal Pipe, and Shield.

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Can be delivered from stock immediately.

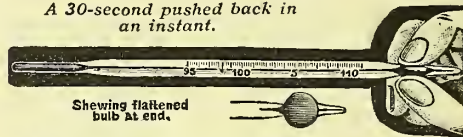
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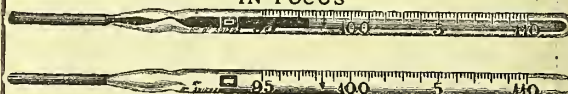
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The square mark engraved on lens front
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SPECIAL AWARD AND GOLD MEDAL, NEW ZEALAND, 1907

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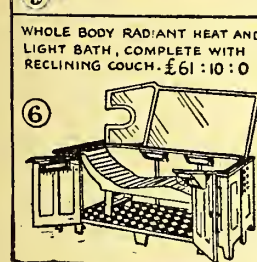
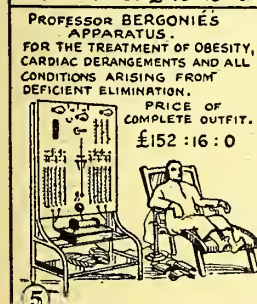
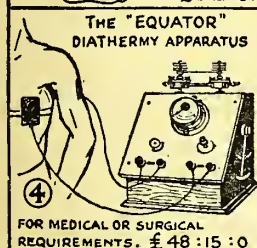
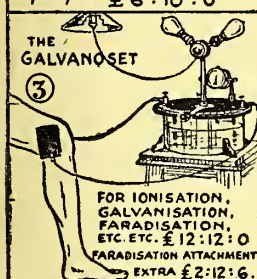
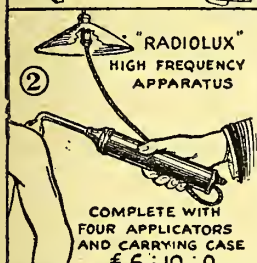
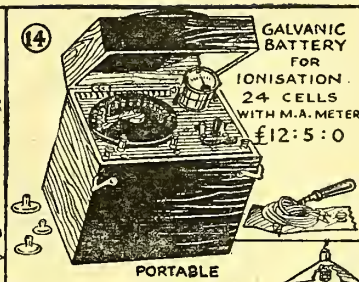
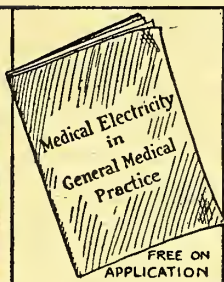
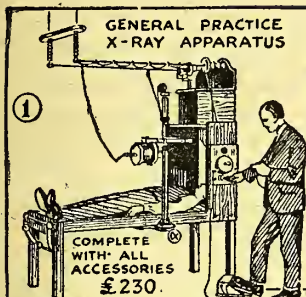
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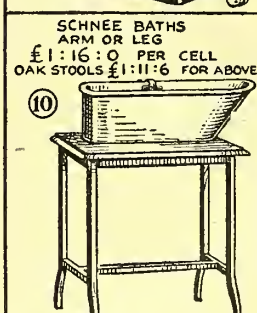
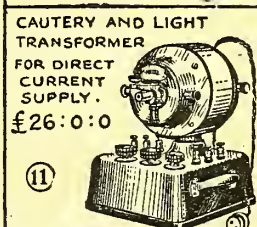
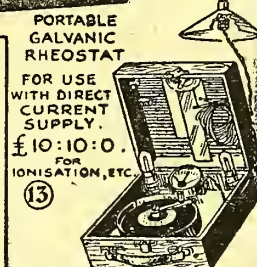
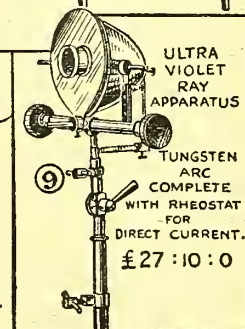
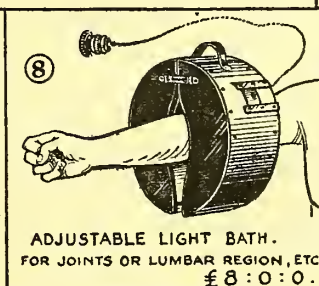
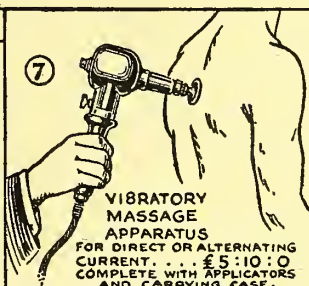
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HIGHEST GRADE WORKMANSHIP
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Noted house for promptitude
Giving value and efficiency
Our primary object being
To give complete satisfaction"**

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NOTICE.—Several instances of the sale of VENUS BRAND goods other than their make having been brought to the notice of Joseph Harris & Co. their Solicitors are instructed to take proceedings against anyone (Makers or Vendors) fraudulently using the name or design of VENUS or any imitation thereof in connection with Seamless Moulded Goods.

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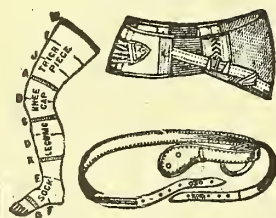
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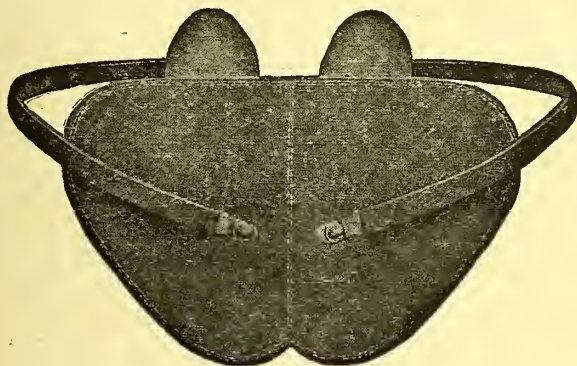
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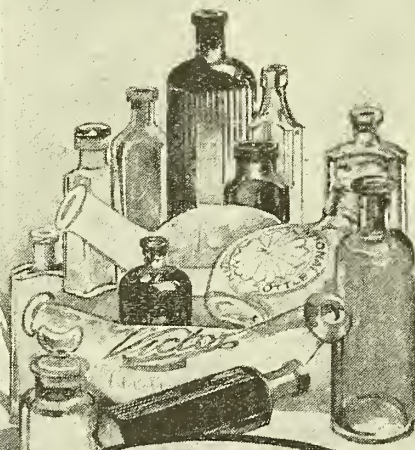
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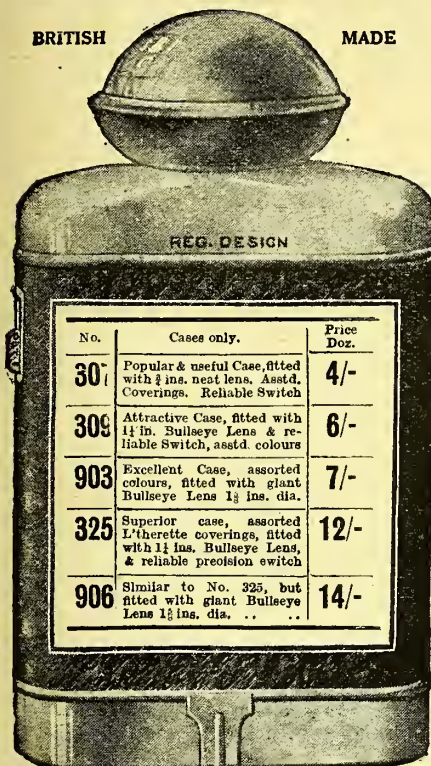
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RETAIL P.A.T.A.	10½d.	1/4	2/3	3/9
NET PROFIT ON COST	61%	68%	69%	66%

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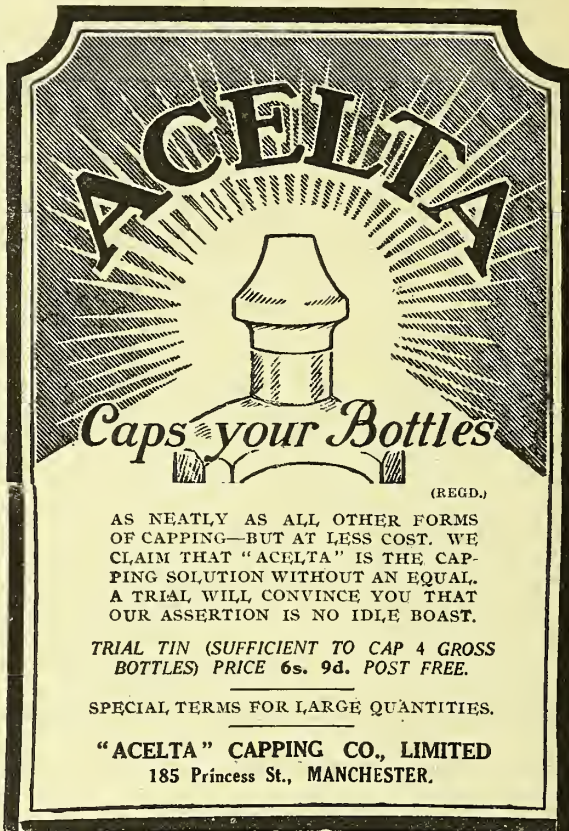
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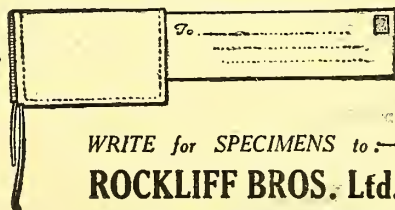
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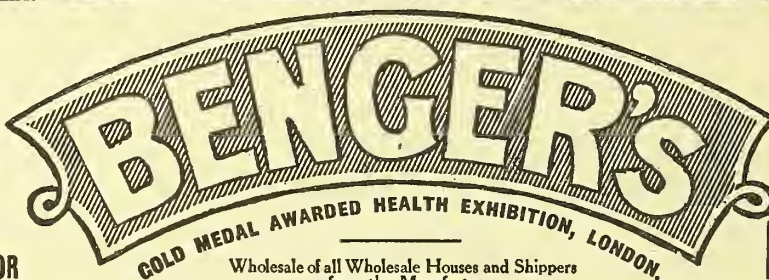
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Recent Patents

Abstracts of specifications of recently-granted patents for inventions. The complete specification (1s. each including postage) of British patents can be obtained from the Patent Office, 25 Southampton Buildings, London, W.C.2, on quoting the name of the patentee and the number of the patent.

Storing Labels.—A loose box or holder for storing labels within a compartment of a drawer, having one end open and the other closed and inclined upwards, to allow of the labels being removed from the bottom of the pile one at a time, as required. (W. Whitehead, 219,032.)

Selective Developer.—A developer possessing a selective action on the exposed and relatively unexposed portions of a photographic film, rendering the former harder than the latter, based on the addition of sodium hydroxide and consisting of pyrogalllic acid 0.82, citric acid 0.02, potassium bromide 0.4, sodium hydroxide 0.34, ammonium chloride 0.17 gram, water to produce 100 c.c. (Kalmus, Comstock & Wescott, Incorporated, 204,034.)

Oleo-Stearate of Glyceryl.—A process for the manufacture in powder form of a product suitable for application to the skin for toilet purposes, consisting in digesting together dairy cream and olive oil with a small quantity of pancreatin, followed by emulsification by means of a mixture of stearic acid and potassium carbonate, separation of the pancreatised oleo-stearate of glyceryl, and drying. (S. A. Walton and Tokalon, Ltd. 218,154.)

English and Welsh News

The Editor would be obliged if subscribers will send him marked copies of newspapers containing items of interest for insertion in this or other news sections.

Poisonings

The following cases of fatal poisoning, among others, have been recorded since our last report:—

A verdict of "Suicide during temporary insanity" was returned at an inquest at Abbots Salford, on August 20, on the body of Mr. George Heaton, consulting surgeon, Newhall Street, Birmingham, whose death was found to be the result of taking potassium cyanide.

An inquest was held at Shrewsbury, on August 19, on the body of Frank Nicholas, Betley Terrace, a child aged two, who died as the result of taking some tablets. It appeared that on the previous Sunday the boy went to a dressing table where, among other things, was a bottle containing vegetable laxative tablets. One tablet was subsequently found on the floor out of twenty-three supposed to have been in the bottle. He was removed to the infirmary, where he died. A verdict of "Death by misadventure" was returned.

An inquest was held, on August 15, on the body of Mr. William Alfred Davies, managing director of Davies, Sons & Co. (Derby), Ltd., manufacturing chemists, Bridge Street, Derby. A medical witness stated that he was called to the company's premises the previous morning. He found the deceased lying on his back on the floor of the ether room. A *post-mortem* examination revealed that the stomach contained hydrocyanic acid. The coroner: There was no possible chance of this poison being inhaled? Witness: It must have been taken by internal application. Mr. E. W. Davies, son of the deceased and a director of Messrs. Davies, said that his father had complained of his health of late. A verdict of "Suicide while of unsound mind" was returned.

Cricket—Portsmouth v. Southampton

The annual cricket match between Portsmouth and Southampton pharmacists was held at Swaythling, Southampton, on August 13. It was played in showery weather before a small audience, and resulted in a win for the home side. Full scores:—

Portsmouth		Southampton	
Peat, b. Pickup	25	Trussler, stumped	2
Rhodes, b. Trussler	5	Hooper, b. Garnham	5
Smith (capt.), b. Wilson	0	Rogers, not out	20
Parsons, b. Trussler	5	Pearson (capt.), b.	0
Nightingale, b. Trussler	10	Garnham	0
Barlow, b. Pickup	7	Wilson, not out	29
Gregory, b. Pickup	0	Extras	3
Upson, b. Pickup	0		
Stewart, stumped	0		
Sparrow, b. Pickup	1		
Garnham, not out	0		
Extras	6		
Total	60	Total (3 wickets)	64

Pickup, Atkinson, Tidbury, Adams, Freemantle, and Conway did not bat. Both teams (who were entertained by the Southampton Club) and a few friends sat down to tea at the Fleming Arms Hotel. Mr. Atkinson (President of the Southampton Club) and Mr. Pearson welcomed the visitors, and Mr. Smith replied.

Dangerous Drugs Act Cases

At Cardiff, on August 16, A. Wan, ship's cook, was fined £50 for being in possession of raw opium.

At Marylebone Police Court, London, on August 18, Patrick and Winifred McKay, Clifton Hill, N.W., were remanded on a charge of being in unauthorised possession of morphine. It was stated that the accused had obtained supplies by means of forged prescriptions signed "J. J. Levins."

At Southampton Police Court, recently, Mr. James Lester Reeve, dentist, Portland Street, was summoned on ten counts for giving certain prescriptions for the supply of "dangerous" drugs without dating them. Mr. Reeve, who pleaded "Guilty," said that he did not date the prescriptions as he relied on Boots, Ltd., who

dispensed the prescriptions at a local branch, to do so. He was fined 40s., with costs, a total of £3 16s.

At Portsmouth Police Court, on August 13, George Cley, a sapper in the Royal Engineers, was charged with being in unauthorised possession of cocaine. It was stated that, when searched, a bottle labelled "Cocaine Hydrochlorate Merck. Made in Germany," was found in one of his pockets. Cley refused to say where he obtained it. Mr. R. P. Page, F.I.C., borough analyst, stated that the bottle contained nearly 20 gr. of pure cocaine. The accused was sentenced to three months' imprisonment.

Birmingham

Among a collection of books recently presented to Birmingham Reference Library is one dealing with the botany of the district.

Mr. J. L. Hall, chemist and druggist, Solihull, won the second prize in the balloon race held recently in connection with the Elizabethan "Fayre" in the grounds of Lady Bird.

Mr. F. R. O'Shaughnessy, for many years chemist to the Turne and Rea Drainage Board, and secretary of the Birmingham section of the Society of Chemical Industry, has devised and patented a new process of sewage purification and disposal.

Liverpool

Mr. Ernest Prebble, 187 Kensington, is on holiday in the Scilly Isles.

The Liverpool Yorkshire Society, which includes several pharmacists, is concluding its summer rambles and preparing a winter programme.

Heavy showers caused a falling off in the sale of films last Saturday. People away for the week-end returned with colds, and remedies were in brisk demand.

The Liverpool Pharmacy Club announces a second picnic up the River Dee at Chester on Sunday, August 31. Members and friends meet outside Woodside Station (Birkenhead) at 10.15 a.m. The motor coach leaves at 10.20. A late tea will be taken in Chester. The total expenses will not exceed ten shillings each.

Sheffield

Displays of Eastern Foam are popular in the district.

Mr. J. E. Morris, chemist and druggist, Nottingham, is opening a business at Hatfield House Road, Shiregreen.

Mr. Bernard Ellis, barrister-at-law and pharmacist, has consented to stand as a "citizen" candidate at the municipal election. At present there is no chemist on the city council.

The chairman of the Joint Hospitals Board addressed a meeting of chemists at the Y.M.C.A. recently with a view of securing their support for the "Penny in the Pound" scheme which has proved such a success. After a discussion it was decided to issue a circular to the chemists of the district.

Miscellaneous

THE WELLCOME HISTORICAL MEDICAL MUSEUM will be closed for cleaning and redecoration from September 1 to September 30 inclusive.

EXPLOSION AT WORKS.—A tar still at the works of Brotherton & Co., Ltd., Leeds, exploded on August 15. One man is suffering from shock.

POISON-LICENCE APPLICATION.—Mr. E. Abbott, 23 Crouch Street, Colchester (E. Abbott & Sons, Ardleigh) has applied for a licence under Section 2 of the Poisons and Pharmacy Act, 1908.

SWIMMING CONTEST.—At Wandsworth Baths, London, S.W., on August 15, a swimming race of 133 yards took place between teams representing the South-West London Chemists' Association and Allen & Hanburys, Ltd. After an exciting contest the Association won by three yards.

UNPAID INSURANCE CONTRIBUTIONS.—At Poole, on August 14, George E. Connolly, Upper Parkstone, described as a herbalist, was fined £5 for having failed to pay contributions under the National Health and the Unemployment Insurance Acts. He was also ordered to pay the arrears recoverable and the costs of the case.

SACCHARIN SMUGGLING FINE.—At Hull Police Court, recently, Herbert Lowery, described as a traveller, was fined £922 10s. for harbouring 123 lb. of uncustomed saccharin and £25 for carrying 4 lb. of it. The Bench allowed the payment of £250 on account, the remainder to be paid in three months. The saccharin was confiscated.

CHEMICAL WORKERS' DISPUTE ENDED.—The lock-out of process workers at the works of B. Laporte, Ltd., manufacturing chemists, Luton, referred to in our last week's issue (p. 250) has terminated, Messrs. Laporte withdrawing the condition that their employees shall not be members of the National Drug and Chemical Union, and the secretary of the Union stating that rates of pay set forth in leaflets circulated among the employees were not meant to be applicable to them. It is understood that the works remain open to trade unionists and others alike.

SHOPS ACT CASES.—At Blackpool Police Court, on August 18, Mr. James Tomlinson, chemist and druggist, Raikes Road, was fined 20s. for a breach of the Shops Act. The defence was that Mr. Tomlinson, who only opened his shop about four months ago, was not aware that he was contravening the Act. He was dressing his window when a man came in and purchased a shaving brush. Some shopkeepers were under the impression that in the summer season the Shops Act was not rigidly enforced.—At the same Court Mr. Fred Dickinson, another Blackpool chemist and druggist, was also fined 20s. on a similar charge.

IN THE COURTS.—At Marylebone Police Court, London, on August 12, Alfred Charles Dove, King Street, Hammersmith, W., described as a chemist's sundriesman, was committed for trial, together with two other men, on a charge of conspiring to defraud the Great Western Railway Company in connection with the issue of privilege tickets. Bail was granted.—At Portsmouth Police Court, on August 13, F. G. Cousins, described as a chemist's assistant, was ordered to pay 25s. a week towards the maintenance of his wife.—At Church Juvenile Court, on August 14, three boys were charged with breaking into the shop of Mr. Robert Hotherhall, chemist and druggist, Union Road, Oswaldtwistle, and stealing a camera and other goods of a total value of 31s. Fines were imposed, and the offenders were placed on probation.—At West Ham Police Court, on August 18, William Hall, seaman, and William Wain, labourer, were each sentenced to a month's hard labour for attempting to steal lead from the factory of F. W. Berk & Co., Ltd., Crows Road.—At Bow Street Police Court, London, on August 18, Charles O. Gervais (42), described as a publisher, was remanded on a charge of having obtained the sum of £25 by false pretences from a medical man in connection with an alleged scheme for exploiting a remedy for foot-and-mouth disease.

Scottish News

Brevities

Mr. C. Roebuck, late of Cathedral Street, Glasgow, has commenced business at Bute Drug stores, 19 Columshill Street, Rothesay.

Blyton, Astley & Co., manufacturing chemists, Eagle Laboratories, Lower Broughton, Manchester, have appointed R. Hawkins, Ltd., 102 George Street, Edinburgh, as their representatives in Scotland.

Glasgow

A meeting of the creditors of the Giffen Chemical Co., Ltd., is to be held at 116 Hope Street, on August 25.

The sale of by-products for the year ended May 31 from the chemical department of the corporation gas works amounted to £451,846.

An interesting article on the "Nature of Poisoning," by Dr. W. M. Cumming, F.I.C., Royal Technical College, appeared in the "Glasgow Herald" on August 15.

It is announced in the "Edinburgh Gazette" that Mr. I. S. H. Benjamin will continue under the firm name, and on his own account, the business of I. S. H. Benjamin & Son, sponge importers and merchants, 12 York Street, Glasgow (see *C. & D.*, August 2, p. 167).

Summer Outings

Pricing Committee's Outing

THE South-West Lancashire and Cheshire Joint (Prescriptions) Committee held its summer meeting at Chester recently. The members lunched together, having as guests the Mayor of Crewe (Major J. N. Jackson), Mr. G. Wright (Sandbach), chairman of the Cheshire Insurance Committee, and the Sandbach Urban District Council; Mr. H. W. Wallis (Ellesmere Port), secretary of the Cheshire Pharmaceutical Committee, and Mr. W. J. Hopley (Chester), secretary of the Chester Pharmaceutical Committee. Later, a journey was made up the River Dee to Eccleston Ferry, where tea was partaken. The menu for lunch took the form of a prescription, with columns "for use by the Pricing Bureau only."

A North-East Lancashire Picnic

THE North-East Lancashire Chemists' Association had their annual picnic on August 14, the place chosen being Kirby Lonsdale. The journey was made in two motor coaches by way of Settle. Tea was served at the Royal Hotel, and an enjoyable time was spent. On the homeward run Lancaster and Morecambe were visited. Included in the party were Mr. W. Holt, President of the Blackburn Chemists' Association, and Mr. S. H. Sidebottom (Accrington), President of the North-East Lancashire Branch of the Pharmaceutical Society.

Insurance Act Dispensing

Record of matters concerning Chemists' interests in the National Health Insurance Acts.

South-Eastern Pricing Bureau.—A report recently issued by the Joint Committee of the South-Eastern Division, giving statistics for 1923, shows that 14,616 chemists' accounts, numbering 3,718,126 prescriptions, of a value of £136,327, were dealt with, and in addition 118,949 Ministry of Pensions prescriptions, valued at £5,814. The number of chemists' accounts for this class was 19,474. The total number of National Health Insurance prescriptions and the value thereof for each of the last eight years was as follows:—

Pre-Year.	scriptions.	Value. £ s. d.	Pre-Year	scriptions	Value £ s. d.
1916	2,510,345	64,347 17 11	1920	3,056,385	132,375 17 0
1917	2,385,822	62,840 3 4	1921	3,289,621	136,616 2 2
1918	2,730,997	85,730 17 6	1922	3,554,662	135,254 19 8
1919	2,659,768	92,190 3 5	1923	3,718,126	136,327 8 8

The average total cost per prescription was 8.8d. in 1923, compared with 9.1d. in the previous year. The average total cost per insured person was 28d. and 28.3d. for corresponding periods. The number of prescriptions disallowed during the year was 842; of this number 299 prescriptions were for brushes. Others were for articles in the nature of foods, such as Allenbury's Diet, Benger's Food, Milk Enules, Scottish oatmeal, Valentine's Meat Juice, West Indian cane sugar; in addition to these there were Benedict's solution, Fehling's solution, atomisers, and other things. The value of the prescriptions for insulin from May 10 to June 30 was £46 6s. 3d.; for the quarter ended September 30, £189 0s. 10d.; for the quarter ended December 31, £565 16s. 1d. The following statistics are also given:—

	No. of prescriptions	Total cost £ s. d.	Number of panel patients	Average ingredient price	Average dispensing fee
Middlesex ..	1,290,595	46,613 5 2	399,903	4.2	4.5
Kent ..	872,606	33,345 11 11	255,226	4.6	4.6
Surrey ..	507,232	18,358 13 10	188,759	4.1	4.6
Portsmouth ..	208,075	7,035 5 11	70,947	3.5	4.6
East Sussex ..	150,971	5,828 19 7	47,310	4.8	4.5
West Sussex ..	113,592	4,493 12 3	36,863	5.0	4.5
Brighton ..	170,542	6,327 1 0	50,634	4.5	4.4
Hastings ..	60,717	2,240 15 5	17,596	4.4	4.5
Eastbourne ..	46,689	1,992 6 11	17,586	5.6	4.6
Isle of Wight ..	75,144	2,930 17 10	22,277	4.9	4.5
Croydon ..	202,885	6,556 1 8	56,347	3.1	4.7
Canterbury ..	19,078	604 17 2	6,570	3.1	4.5

Bankruptcy Reports

Re Harry Dawson West, 40 Low Street, Keighley, chemist and druggist.—The first meeting of the creditors was held on August 6 at Bradford. The statement of affairs showed liabilities £1,825 and a deficiency of £1,694. The matter was left with the official receiver as trustee of the estate.

Re John Huby and Frank Huby, trading as Huby Brothers, 38 Station Road, Carcroft, watchmakers and jewellers.—The public examination of these debtors was held recently at Sheffield. F. Huby stated that there was a deficiency of £609 11s. 5d. He agreed to purchase, in December last, a druggist's business in Carcroft, it being arranged that he should pay £145 down and 10s. weekly, but he had not paid anything. He entered into possession of the business and continued it until June 9. The examination was adjourned. The following are among the creditors in respect of the separate estate of F. Huby:—Bleasdale, Ltd., £30; Goodall, Backhouse & Co., £38; J. Grossmith & Son, Ltd., £18.

Re Aristotle I. Poulot, late of 20 Bucklersbury, London, E.C., chemical broker.—Creditors under this failure met on August 8 at the London Bankruptcy Court. Mr. Armstrong, official receiver, reported that a previous failure was recorded against the debtor in July 1922, and he was granted a release from those proceedings in June 1923, upon consenting to judgment for £5. He then commenced business again on his own account. Debtor returned his unsecured liabilities at £105, and assets nil. He attributed his failure to a transaction in acetic acid and to bad debts. A solicitor for Alexander, Fergusson & Co., Ltd., Glasgow, questioned the debtor with regard to £200 worth of goods they sold to him just before the date of the receiving order. At first the debtor said the goods had been taken over by one of his creditors, but afterwards he admitted he had never taken delivery of the goods. He did not pay the carriage charges, or handle the goods in any way, and had not handed over them to anybody else. The official receiver said that if the goods had never actually passed into the debtor's possession, the creditors could get them back under the Sale of Goods Act. The estate was left in the hands of the official receiver.

Gazette

Partnerships Dissolved

ATKINSON, R. J., and ATKINSON, A., 136 The Broadway, Southend-on-Sea, and 151 Hamlet Court Road, West-cliff-on-Sea, chemists and druggists, under the style of R. J. & A. Atkinson, as from June 30, 1924, the business to be carried on by A. Atkinson.

ATKINSON, A., ATKINSON, R. J., and PYECROFT, A. C., 32 Westgate, Bradford, chemists and druggists, under the style of G. & F. A. Wilman, as from June 30, 1924, so far as regards A. Atkinson.

Bankruptcy Acts

RECEIVING ORDER

YATES, J. H., High Street, Storrington, chemist's manager.

RECEIVING ORDERS AND ADJUDICATIONS

O'FARRELL, J. W., 25 New Cavendish Street, Oxford Street, and 90 High Street, Whitechapel, London, "doctor of medicine"

ILLSLEY, J. W., 55 Pasture Road, Goole, "druggist."

MANGOLD, L. A., and MANGOLD, C. B., carrying on business in co-partnership under the style of Mangold Bros., 17 Harp Lane, London, E.C.3, chemical merchants.

New Companies and Company News

P.G. means Private Company and R.O. Registered Office.

BROOME & METCALFE, LTD. (P.C.).—Capital £5,000. Objects: To acquire the business carried on by C. W. Metcalfe and G. H. Inchley at 1 Union Row, Handsworth, and to carry on the business of wholesale confectioners, grocers, chemists . . . R.O.: 1 Union Row, Handsworth, Birmingham.

PRATT, BRAY & Co., LTD. (P.C.).—Capital £1,000. Objects: To acquire the business of chemists at 25 High Street, Reigate, and to carry on the business of chemists and druggists, opticians, wine and spirit merchants, stationers, dealers in photographic goods, etc. The first directors are: F. W. Bray, 30 Broad Street, Teddington, pharmacy proprietor; B. C. Browell, 2 High Street, Dorking, pharmacist; Mrs. Elizabeth P. Bray, 30 Broad Street, Teddington; W. J. Bray, 10 Gloucester Road, Teddington, pharmacist. R.O.: 25 High Street, Reigate.

JULES LANG (OPTICAL) Co., LTD. (P.C.).—Capital £2,000. Objects: To adopt a verbal agreement for the purchase from Fernand René Lang of the business of a dealer in optical and scientific glassware and optical accessories, carried on by him as a branch and under the style of Jules Lang & Son, and the several agencies carried on by him as appertaining to the said business, etc. The permanent directors are: F. R. Lang, 89 Addison Road, Kensington, W.; R. Warde, 7 Accl Road, West Hampstead, N.W. R.O.: Charlton Works, Islington, London, N.1.

RADIOMITE COMPANY, LTD. (P.C.).—Capital £8,000. Objects: To adopt an agreement with F. N. D. Rosher; to acquire a sole licence to manufacture under Patent No. 211,679, and use of trade-mark Radiomite, and to carry on the business of manufacturers and sellers of insoles or socks for boots and shoes, abdominal or body belts, chest or lung protectors, surgical bandages, pads for use on parts of the body, and gloves or mittens, all being for curative purposes, etc. The directors are F. H. Rosher and W. H. Webber. R.O.: 49 Parker Street, Kingsway, London, W.C.2.

MIRIFIQUE, LTD. (P.C.).—Capital £5,000. Objects: To adopt an agreement with F. Lamplough, to acquire the registered trade-mark of "Mirifique" . . . to manufacture . . . things capable of being used as a paint or priming and waterproofing material; and to carry on the business of wholesale manufacturing chemists, analytical, synthetical and research chemists, paint and varnish makers, oil colour manufacturers, distillers, dyers and bleachers, etc. The subscribers are: F. Lamplough, Old Tan House, Bray, engineer; S. E. Hughes, 5 Duckett Road, Harringay, N., clerk. Solicitors: Freeman, Haynes & Co., 11 Great James Street, London, W.C.1.

WINDLE & Co., LTD. (P.C.).—Capital £1,500. Objects: To carry on the business of manufacturing, wholesale and retail pharmaceutical and analytical chemists and druggists, dispensers and drysalers, manufacturers, importers and exporters of and dealers in pharmaceutical, medicinal, sanitary, veterinary, chemical, proprietary, industrial and other preparations, and articles, manufacturers of, agents for and dealers in all kinds of ointments, unguents, pills, powders, tabloids, soaps, creams and skin preparations and toilet preparations, etc. The first directors are: J. W. Windle, St. Aldwyns, Swanage, chemist; S. H. Parry, Lee Holme, Swanage, ironmonger. R.O.: 1 Smith's Corner, Shore Road, Swanage.

JOHN OAKLEY & SONS, LTD., have declared an interim dividend on ordinary shares at $2\frac{1}{2}$ per cent., less tax.

POLAR PERFUMERY Co., LTD.—At a meeting held in London, on June 30, it was resolved that for the purpose of amalgamating the business of this company with Paul Marks & Co., Ltd., the Polar Perfumery Co. be wound up voluntarily. Mr. T. F. Miller, 61½ Fore Street, E.C.2, was appointed liquidator, and a meeting of creditors was held at the above address on July 16.

SEYCHELLES RUBBER AND COCONUT ESTATES, LTD.—The report for the year to June 30 last states, *inter alia*, that 11,752 lb. of cinnamon oil was distilled (against 17,080 lb.). The accounts show a loss of £623 (against a net profit of £601), which converts the credit balance of £304 brought in into a deficiency of £319. As an experiment about nine acres have been planted with patchouli. The analysis of the essential oil received in London is satisfactory and the area is being extended.

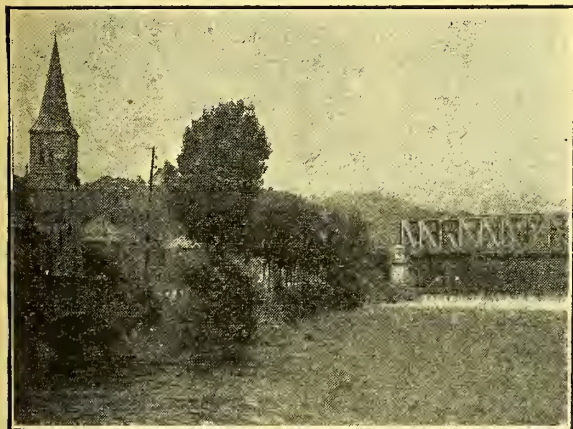
THE UNITED DRUG Co. (U.S.A.), reports for the half-year ended June 30, 1924, net sales of \$33,517,879, against \$32,132,804 in the same period last year, and gross profits from sales of \$10,944,655, against \$10,308,110. After operating expenses, reserves for taxes, depreciation and other adjustments, the company reports net profit of \$2,701,168 for the first half of the current year, against net profit of \$2,512,780 in the first half of 1923. After providing for dividends on the preferred stock the company reported a balance equal to \$4.12 a share earned on the \$35,780,600 common stock of \$100 a share par value in the first six months of this year, against \$3.62 a share earned on the common stock in the first six months of 1923.

COMPANIES WHICH MAY BE WOUND UP.—The names of the undermentioned companies will, unless cause is shown to the contrary, be struck off the Register and the companies dissolved three months after July 25: Belenite Chemical Co., Ltd.; Brechfa Chemical Co., Ltd.; British Formaldehyde Corporation, Ltd.; British Hygienic Soaps, Ltd.; Burrows (Chemicals), Ltd.; Capron Neutral Sulphate of Ammonia Syndicate, Ltd.; Castle Soap Co., Ltd.; Collings Cash Chemists, Ltd.; Co-operative Medical Bottle Co., Ltd.; Essona Perfumery Co., Ltd.; Japlines Instant Toothache Cure, Ltd.; Kaolin Corporation, Ltd.; Lilac Chemical Co., Ltd.; London Dye Manufacturing Co., Ltd.; Margam Chemical Co., Ltd.; Nuvité Co., Ltd.; Ozobrome, Ltd.; Pasmores' Drug Stores, Ltd.; Radium Development Syndicate, Ltd.; Radium Products Association, Ltd.; Sun Chemical Co., Ltd.; Tozana Perfumery Co., Ltd.; Tungsten, Ltd. The names of the following will, unless cause is shown to the contrary, be similarly dealt with three months after August 12: British Pharmacies, Ltd.; J. Davis (Pharmacies), Ltd.; Hardfast Paint and Chemical Co., Ltd.; London Scientific Instrument Co., Ltd.; National Ophthalmic Institute, Ltd.; Starch Manufacturing Co., Ltd.

GEORGE GREY & SONS, LTD.—A meeting of creditors was held recently at Bury, when Mr. H. E. Lord, accountant, Manchester, submitted a statement of affairs disclosing liabilities £3,511 2s. 6d. There were eighty-six trade creditors, whose claims aggregated £990 5s. 7d. Assets were estimated to realise £1,200 13s. 3d. net. Mr. Lord reported that the company, which had gone into voluntary liquidation and had appointed him to act as liquidator, was formed in 1921 with a nominal capital of £5,000. Shares to the value of £1,430 were issued as fully paid to the vendors. Balance-sheets had been regularly prepared, and it appeared that in 1922 the company was successful in making a profit, but the net amount earned in that year was only £10. In all other periods the company had sustained a loss. The company had suffered through lack of working capital since its inception. Two inquiries had been received for the purchase of the business, and it was hoped that a definite offer would be made. The bank held third-party guarantees in respect of their claim. The creditors passed a resolution confirming the liquidation of the company, with Mr. Lord as liquidator, and also appointed a committee. The following are among the creditors:—Hough Heseason & Co., Ltd., £13; London Essence Co., Ltd., £15; W. Edge & Sons, Ltd., £13; Parke, Davis & Co., £26; Fassett & Johnson, Ltd., £14; J. & E. Atkinson, Ltd., £10; Horlick's Malted Milk, Ltd., £28; James Woolley, Sons & Co., Ltd., £33; Kaputine Syndicate Co., £32; Palmolive Co., Ltd., £17; Hill, Evans & Co., Ltd., £52; George Dutton & Son, Ltd., £22; A. Wander, Ltd., £16; F. W. Hampshire & Co., Ltd., £17.

Notes on a Belgian Holiday

HAVING recently returned from a cycling holiday in the Belgian Ardennes, it occurred to me that other pharmacists might be interested in first-hand experiences of this beautiful district as a holiday resort, and also a few impressions, gleaned by the way, of pharmacy in Belgium. The district covered is enclosed in a triangle, having Liège, Luxembourg and Dinant as its three



CONFLUENCE OF THE LESSE AND THE MEUSE

apical points; the principal towns visited besides these were Laroche, Houffalize, Arlon, Neufchâteau, Rocheford and Namur, while a détour was made down the valley of the Meuse from Dinant to Waulsort. The roads were extremely good, being for the most part macadam, and a distinct improvement on the present English surfaces of tar and potholes; of course, in the towns and some of the villages there is the usual *paré*, but the only really bad stretch was from Namur to Liège. The scenery was wonderful, the valley of the Ourthe being very lovely—especially a stretch of about twelve miles from Hottan to Laroche, where the road runs winding round a ledge between the rocks above and the river below, with masses of trees overhead and the roadside covered with foxglove and elder in full bloom; there were also a number of lime trees, the flowers of which, under the name of *tilleul*, are used a good deal on the Continent for making *thé*, for stomach and other troubles. Another picturesque part was between Neufchâteau and Rocheford, where the road runs through pine forests. The hotels were good and clean and the cooking excellent; I never had a bad meal on the whole trip, even in the smallest village, and the charges are very moderate compared to English hotels, especially at the present rate of exchange. Bedrooms average 10 francs a person for a night, breakfast 3 francs, lunch and dinner 14 francs each; so that, roughly, 10s. a day covers the cost of living—and the hotels selected were the best in each town. Wines and fruit, however, are much dearer in the hotels than in the local shops.

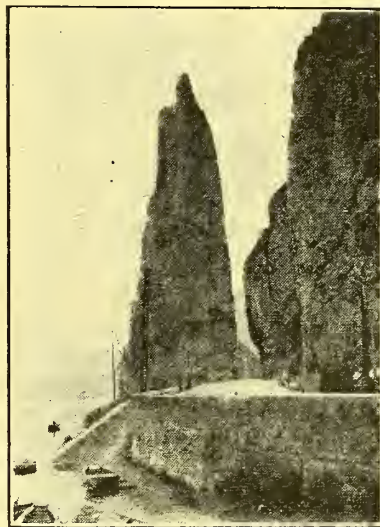
RAPID RECOVERY FROM WAR DAMAGE

To the casual tourist there is little or no indication that the country has recently been through a terrible war of four years' occupation, the only open evidence being at Dinant, where many houses were in ruins or in course of rebuilding, while there were several colonies of wooden huts erected in aid of the homeless; the bridge at Dinant was a temporary wooden structure, and at several other places on the Meuse bridges were also in a state of repair. Every now and then one passed a tablet affixed to the wall with an inscription which generally reads: "Here a mother and two children were shot by the Germans, August, 1914," or similarly; sometimes photographs of the victims were attached, and in every case fresh flowers and patriotic ribbons. I saw no groups

of unemployed, such as may be seen standing about in any of our towns; and, judging by the number of German railway trucks I saw on every goods train, the Belgians must be getting something out of the indemnities—surely they deserve it. There is no difficulty about different issues of paper money for various localities, the notes in circulation being those of the National Bank of Belgium for 5, 20, 50 and 100 francs, while there are nickel coins and coins with holes in the centre. The people are very well disposed towards English tourists, and were always pleased to give information or directions; the greater number of tourists, however, seemed to be Dutch, many cars bearing the letters N.L., whilst a few were French. In even the smallest villages there is electric light, the supply originating from the big generating station near Liège and being transferred to local sub-stations, as far as I could ascertain, by overhead wires.

PHARMACY WINDOWS AND FITTINGS

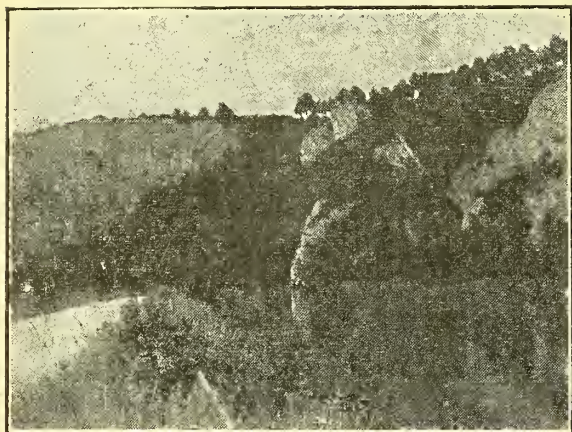
Turning to business matters, I was naturally an interested observer of a pharmacy whenever I saw one; in many of the villages which for their size I think would in England have supported a pharmacy, I could not find one, but in the smaller towns there were always two or three, while in Liège they seemed to be innumerable; there are also the *drogueries*, and in some instances the pharmacy and the *droguerie* are combined under the same building and proprietor. The general window-dressing falls a long way below our ideas of display; the better-class pharmacies do not attempt it, contenting themselves with a wooden or glass screen and a carboy; but where any display is made, it consists of a few patents, laid on the floor of the window, including many English proprietaries. Among other things shown, I saw Scott's Emulsion, Cassell's Tablets, Cadum, Glaxo, Virol, Euthymol, Kolynos, Allenburys Food, Vaseline, Gibbs's Tooth Paste and Shaving Soap, Thermogere and Vinolia. Packets of foot-bath salts seem to be in vogue, as there were many different varieties, and also a good many kinds of *thé*, nearly every pharmacist having his own brand, for various ailments. All showcards in the windows are taxed, and bear a revenue stamp; these



ROCHER DE BAYARD, DINANT

vary in value, and are apparently assessed according to the size of the card; many English preparations have display-matter printed in French, but I saw some Vaseline cards in English, while in Luxembourg it was strange to see posters advertising Colgate's Dental Cream with English words. In Luxembourg I saw a large pharmacy, the *Pharmacie Internationale*, which was well fitted up; the windows were painted halfway up, with a red cross on white disc in the centre of each, and the interior was

fitted up for pharmacy pure and simple—altogether the style of thing we should like to have in this country. In the centre of the town was another striking pharmacy, the *Pharmacie des Nègres*; it was a double-fronted shop, the two windows having stained-glass screens about a third of the way up, with a globe-shaped carboy in the centre of each, and no display of goods at all; on the curves in the doorway, which are usually bent windows, were two mosaic panels, one on each side, each representing a life-size negro, the sign of the pharmacy. The



THE MEUSE BETWEEN DINANT AND WAULSORT

interior was in oak or light wood, the counters having plenty of serving space, while shop-rounds lined the walls. Belgian pharmacists carry out many operations, which we should do behind the dispensing screen, in full view of the customer.

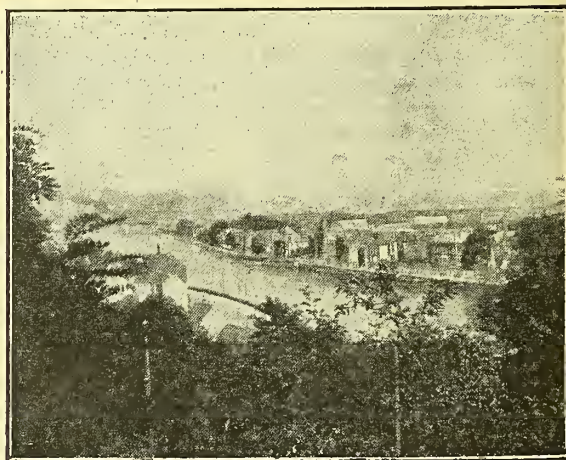
GENERAL CONDITIONS

During the course of conversation with one or two pharmacists I gathered some details as to the general conditions; there is no State Insurance dispensing as we have it, but some of the societies (similar to our Friendly Societies) and the State railways have a system of medical service with dispensing by pharmacists. The doctors have a custom of putting the names of the diseases they treat on their brass door-plates; one can see "Dr. —, eyes," "Dr. —, stomach, liver and intestines," which seems strange to us, and would probably be looked on as advertising by the General Medical Council. The hours of business are much longer than those in this country, and Sundays are like week-days; but in some towns there was a rota closing system in operation, notably in Liège, where I noticed several pharmacies closed on Sunday with a framed notice on the door stating which pharmacies were open. In one smaller town a pharmacist told me that he had tried hard to work such a system, but it had broken down owing to lack of unanimity; needless to say, there is no early-closing day nor any restrictions on sales. Many pharmacies display little square notices with a red cross, "Member of the Belgian Red Cross"; but this is not confined to pharmacists. Photographic goods are sold in some pharmacies, but are displayed more in *drogueries* and other establishments; the goods shown seem to be mostly Kodak and Gevaert. I looked in vain for an advertisement for D. and P. work, and failed to find one until I arrived in Liège. The price for developing a roll of six films, $3\frac{1}{2}$ by $2\frac{1}{2}$, was 1.25 fr., and each print the same size was 35 centimes, which is cheaper than the usual rate over here; on the other hand, the price of a roll of film $3\frac{1}{2}$ by $2\frac{1}{2}$ was 5.75 fr., or about 1s. 5d. My experience with regard to dark rooms was decidedly amusing. Using a plate camera, I required somewhere to change my plates, and my first attempt was at a pharmacy. The young lady dealing with photographic

customers said that they had a dark room, and led me up three or four flights of stairs to an attic with a wooden box for a table and a hock bottle lamp with a very wobbly cap, which fell off once during the operation. On closing the door there was at least an inch beam of light; on my calling out that there was too much light to be safe, she said she would cover it up—which she did with what I discovered to be on emerging a pair of the pharmacist's trousers. My second attempt was at a photographer's; here the good lady led me to a sort of wine cellar opening out of the back garden, the table consisting of a wheelbarrow with two planks across it, and the hock-bottle lamp again; here the door leaked so much that, after spending some time trying to block it up with some old sacks that were lying about, I was at last compelled to risk it. Where the proprietor did his professional work I cannot imagine. Eventually I found a fairly respectable dark room at a pharmacy near the bridge at Dinant. The charge in each case was one franc (threepence), so I could not well grumble at the other details.

OTHER TYPES OF SHOP

Another type of shop I came across in Liège was labelled *Bandagiste*, and seemed to make a feature of surgical instruments, belts, elastic hosiery, etc. I noticed very few wireless aërials, although there were a few shops (generally electricians) in the larger towns which displayed some of the necessary apparatus. One very large establishment which I spent some time in looking over in Liège was the Grand Bazar, Place St. Lambert. This was on the style of the departmental store, but slightly different from the big West End stores in this country; the method of display is that to which we are accustomed in the sixpenny bazaars, but the class of shop and goods is much better. In this place there were separate stands for nearly every kind of commodity one could think of—china, glass, sweets, books, fruit, tobacco, furniture, grocery, and so forth. I noticed Piver's powders marked at 7.75 fr., and Roger & Gallet's *Violette de Parme* powder at 6.50 fr. One of the windows had a big display of *Crème Tokalon*. I discussed the possibilities of chain pharmacies with two local pharmacists I met in an hotel one evening, and said that in England big companies had many shops,



NAMUR FROM THE CITADEL

as in Belgium a firm named Delhaize have grocers' shops in every town and village. They both declared that could not happen in pharmacy in Belgium, but one of them owned to having a branch in another town. I asked him why he could not have ten or a hundred branches if he wished; he said he could do so, but he was not a company, and he thought that Belgian pharmacists would certainly have something to say if such a thing were to happen.—"PHARMATOURA" (7/7).

The British Association

THE annual meeting of the British Association for the Advancement of Science was held at Toronto from August 6 to 13. Major-General Sir David Bruce, President, delivered the inaugural address in the University Convocation Hall on the evening of August 6, the subject being "The Prevention of Disease," which is summarised in an editorial in this issue. The following are abstracts of some of the papers which may interest our readers:—

The Analysis of Crystal Structure by X-rays

In his address, Professor Sir W. H. Bragg dealt with the new methods of analysing the structure of materials by means of x -rays. The fundamental measurement of the method is the angle at which rays of a given wavelength are reflected by a set of planes within the crystal. The planes of a "set" are all exactly like one another; an imaginary observer within the crystal could not tell by any change in his surroundings that he had been moved from one plane to another. When the wavelength of the x -rays is known, the angular measurement can be used to find the spacing of the set of planes, and in this way a linear dimension of the crystal is measured. The spacing is the distance between any plane and its nearest like neighbour on either side. If the spacings of three different sets of planes are found, the volume of the unit cell is found. The crystal unit cell is bounded by six faces, each set of planes furnishing a pair. The pair consists of two neighbouring planes of the set. The cell may have a great variety of forms, but has always the same volume. The specific gravity of the substance being known, it is possible to find the number of atoms of various kinds which the cell contains: the proportion of the various kinds is necessarily the same as in the molecule of the substance. The cell is in practice found always to contain a small integral number of molecules, one, two, three, or four, rarely more. This assemblage of molecules is fully representative of the crystal; by the mere repetition of the cell, without the addition of any new features, the crystal with all its properties is produced. There are, therefore, three types of assemblage. The simplest is that of the single atom, as in helium in the gaseous state, in which the behaviour of every atom is on the whole the same as the behaviour of any other. The next is that of the molecule, the smallest portion of a liquid or gas which has all the properties of the whole; and lastly, the crystal unit, the smallest portion of a crystal (really the simplest form of a solid substance) which has all the properties of the crystal. The final aim of the x -ray analysis of crystals is to determine the arrangement of the atoms and the molecules in the crystal unit, and to account for the properties of the crystal in terms of that arrangement. The first step is the determination of the dimensions of the crystal unit cell. Let us take the diamond as an example. The crystal unit cell contains two atoms of carbon. The sides of this cell are determined by the x -rays, and are all equal to 2.52 A.U. We know that the carbon atom, as built into the crystal, is tetrahedral, because the x -ray observations show that four trigonal axes meet in it. Considerations of symmetry of x -ray observations show that the centre of an atom of the one orientation lies at the centre of a tetrahedron formed by four atoms of the other orientation. The edge of this tetrahedron is the edge of the unit cell, and its length is 2.52 A.U. It may then be calculated that the distance between the one atom and the others, its nearest neighbours, is 1.54 A.U., and we may call this distance the diameter of the carbon atom.

The determination of these distances may be looked on as the result of the first stage of the analysis by x -rays. We know that it is possible to separate crystals into thirty-two classes, according to the kind of external symmetry which they display, but the interior arrangements of the crystal, of which the outer form is one consequence, are so varied as to furnish 230 different modes. With very few exceptions the x -rays now allow us to carry the classification to this higher degree. The first stage is complete when we have found the dimensions of the crystal unit cell: the second is completed when we

know which of the 230 possible arrangements of molecules, or, in other words, space groups, the crystal structure follows. If the structure of the crystal is not yet obvious—and in the great majority of cases this is far from being the case—we enter on a third stage, in which the mode of procedure is less stereotyped and more difficult, perhaps all the more interesting. The x -rays do not tell us directly the relative positions of the atoms within the unit cell. However, a most important source from which help may be obtained is to be found in chemistry itself. The chemist has, for example, come to the conclusion that the naphthalene molecule is a double benzene ring, and the anthracene a triple benzene ring. The x -ray observations show that one of the sides of the unit cell of the latter crystal is longer by 2.5 A.U. than the corresponding side of the other, all other dimensions of the two cells being very nearly the same. The width of the hexagonal ring in the diamond is 2.5 A.U., so that on the one hand the chemical evidence suggests that the length of the molecule is parallel to that edge of the two cells which shows differing values, and on the other the x -ray conclusions give material support to the chemical view. Further, chemists would say that the carbon atoms are not alike; in that case, they must both lie on a dyad axis, since if they did not they would necessarily be symmetrically placed with respect to that axis and would be equivalent. On the other hand, the oxygen atoms in the acetate group cannot lie on the axis if, as is probable, they are equivalent to one another. They must be placed symmetrically with respect to the dyad axis. As to the hydrogens, we must assume either that they do not count, which is not at all unlikely, or that they are not all alike. It is impossible to place eighteen hydrogen atoms so that the group has four intersecting trigonal axes and that every hydrogen is like every other. The molecule has no plane of symmetry, the fault lying with the oxygens. It could not be due to the hydrogens because there are marked differences in the intensities of reflection of pairs of planes, which differences would not exist if there were planes of symmetry, and would be small if due to dissymmetry in the positions of hydrogens only. It is by reasoning along such lines as these that x -ray evidence and chemical evidence can help each other. A fourth example of the connection between arrangement and properties is to be found in the recent work by W. L. Bragg on the indices of refraction of crystals. The lecturer then adduced the chemical evidence available concerning the structure of beryllium acetate, the relative arrangement of the carbon, oxygen and hydrogen atoms in the molecule, then passing on to a consideration of the connection between arrangement and properties as shown by the indices of refraction of crystals. Other connections between structure and properties, such as the cleavage plane, dielectric capacity, rigidity, compressibility, conductivity, thermal and electric, and magnetic constants, were briefly mentioned. The results obtained by x -ray analysis tell us directly the number of molecules in the crystal unit cell, and the mode of their arrangement with such determination of lengths and angles as are required to define the mode of arrangement in full. They leave us then to ally our new knowledge to all that we possess already as to the physical and chemical properties of substances. By this comparison we hope in the end to determine the position of every atom, and explain its influence through its nature and position upon the properties of the substance.

Present-day Problems in Crop Production

The development of agricultural science, the factors concerned in plant nutrition, and in the growth of crops and how they operate, formed the subject of the address delivered by Sir E. J. Russell, director of the Rothamstead Agricultural Research Station. One of the important facts which emerge from recent investigations is that the soil is not a fixed, constant thing, but is pulsating with change. It contains a great population of micro-organisms which, among other activities, decompose the dead plant residues, producing nitrates, humic and other substances of great importance in crop production. But the numbers of these organisms fluctuate continually,

and the bacteria at least change hourly; the nitrates suffer equally rapid changes in amount. Even the mineral part of the soil is not constant in composition. Modern research work shows that many of the properties determining fertility in soils are due to the soil colloids, and some of the most important are attributable to calcium complexes. These are unstable and are affected by the soil water. If the water is free from salts but contains carbon dioxide, the calcium may be replaced by hydrogen, and an acid soil results; if the water contains sodium chloride, the calcium is replaceable by sodium and the resulting complex may readily give rise to an alkali soil. The important fact emerges that any soil not well supplied with calcium contains within itself the possibility of becoming acid and therefore infertile, or alkaline and probably sterile, according to the nature of the soil water soaking through it. The various biological and chemical changes tend to alter the composition of the soil solution. Apparently, however, the colloids have a steadying or "buffering" effect, reducing the degree of acidity caused by the production of acids and absorbing or precipitating various ions that might otherwise cause disturbances. Another generalisation that has emerged is that the relations of the plant and the soil are not rigidly fixed, but are capable of considerable variation, being profoundly influenced by a third factor, the climate. In discussing the results obtained by effecting alterations in the plant, induced by changes in soil conditions, the lecturer stated that the leaf and root are more easily affected than the seed. The sugar content of mangold roots is raised by increasing the supply of potassium to the crop. Increasing the supply of potassium to potatoes influences not only the composition of the tubers, but also their palatability—at Rothamsted a cook discriminated between potatoes fertilised with potassium sulphate and those fertilised with potassium chloride, giving preference to the former. Dealing with the damage done by pests and diseases to agricultural crops—entailing in Britain an annual loss estimated to amount to £12,000,000—the author referred to the control of the plant itself in resisting these attacks: It has been found that tea bushes well supplied with potassic fertiliser escape attack from the mosquito bug for the rest of the season, apparently because bushes so treated become unsuitable as food to the pest. Tomatoes in England are much affected by stripe disease (*B. lathyri*), but they become more resistant when the supply of potash is increased relative to the nitrogen. In conclusion, the lecturer dealt with the problems connected with the control of the soil factors, and of the soil micro-organisms, and made a strong appeal for extended team work and co-operation in agricultural science.

Progress and Prospects in Chemotherapy

Chemotherapy may be defined as the specific treatment of infections by artificial remedies, said Dr. H. H. Dale, after paying a tribute to the discovery of insulin in the Medical School of Toronto University. His address was devoted to a consideration of the results achieved in combating trypanosome infection based on Ehrlich's conception—the production by synthesis of substances with a powerful specific affinity for, and a consequent toxic action on, the protoplasm of the parasites, and none for that of the host. These investigations have had two different starting-points: the action of dyes and the action of arsenic. Ehrlich's observations of the curiously selective distribution exhibited by certain synthetic dyes among the cells and tissues of the body, naturally suggested the possibility of finding in this group a substance which would selectively fix itself to the parasite and poison its protoplasm, without injuring that of the host. Trypan red, trypan blue, Afridol violet, "Bayer 205," "Fournneau's 309" were the substances dealt with by Dr. Dale in illustration of substances of this group found to possess peculiar curative properties. He then proceeded to deal with the organic derivatives of arsenic which have given successful results in the treatment of spirochaetal or trypanosomal infections: atoxyl, salvarsan and tryp-arsamide, and Levaditi's trypanotoxyl, alluding also to the recently observed curative action of bismuth in syphilis. The baffling problem of the acquired resist-

ance of strains of trypanosomes to the action of curative drugs still awaits elucidation, and cannot be solved until more is known of the conditions on which resistance and susceptibility depend. Dr. Dale thereupon reviewed another example of a chemotherapeutic problem—the attempts made, largely by himself, to explore the curative action of emetine and the other alkaloids of ipecacuanha in amœbic dysentery, with a view to finding a more effective treatment. One of the other natural alkaloids of ipecacuanha, methyl-psychotrine, and certain artificial derivatives of emetine, were found to be much more effective than emetine in killing the amœbæ in the test tube, and at the same time were practically devoid of the characteristic toxicity of emetine and cephæline for mammals and for man. Here, on the classical assumption of chemotherapy, should have been ideal remedies for amœbic infection—substances much more parasitotropic and much less organotropic than those already known to be effective. Yet each of them in turn, when administered to patients suffering from amœbic dysentery, in doses much larger than those in which emetine could be tolerated, produced no effect whatever on the dysentery, which promptly cleared up when emetine was subsequently given. Among the members of this group of alkaloids which were tried, the curative effect seemed to be proportional rather to their toxic and nauseating action on the patient than to their lethal action on the isolated amœbæ. Yet emetine and cephæline are not mere symptomatic remedies; they definitely stop the progress of infection by the amœbæ, and, properly administered, eliminate them altogether from the body. One of the earliest of chemotherapeutic discoveries, that of the cure of malaria by quinine, had never been satisfactorily explained. There was no evidence establishing even a probability that quinine, in such concentrations as can be tolerated in the blood of the living subject, would directly kill the malarial plasmodia, especially if these were partly screened from its action by their position in the interior of the red corpuscles. According to a recent conception, quinine acts, not by killing the malarial parasites, but by rendering the blood unfitted for their multiplication. They are supposed to fall a prey to the natural defensive substances in the plasma, because a film of quinine denies them access to the red corpuscles, in the interior of which they could continue their development in safety. This same property, of fixing themselves to the red blood corpuscles or to the connective tissue, has been observed with the higher homologues of quinine, ethylhydrocupreine ("optochin"), and octylhydrocupreine ("vuzin"), and with the dyes of the acridine series, with which promising results in the treatment of bacterial infections have been obtained. An acridine dye, named trypaflavin, was under study in Ehrlich's laboratory in 1914 as a trypanocidal remedy, and was found during the war to have valuable properties as an antiseptic for infected wounds and mucous membranes, for which, under the name acriflavine, it is still used. Since the war other dyes of this series have been investigated, and one of them, called rivanol, is stated to be particularly effective as a tissue antiseptic, especially in conditions of spreading infection due to streptococci. In the case of rivanol, also, evidence has been brought forward that it is fixed by the red corpuscles and the subcutaneous tissues, protected thereby from excretion, or held at the point where its curative action is required. From these body cells it is suggested that the dye is gradually given up to the cocci, on which its action is exerted. In conclusion, Dr. Dale stated that there was a promise that at least some aspects of the problem of immune specificity are being brought within the scope of strictly chemical investigation. As in Ehrlich's pioneer work in chemotherapy, it can hardly be doubted that an increased understanding of the meaning of immune specificity, which but a short while ago might have seemed hopelessly beyond the range of attack by chemical weapons, will still influence ideas, and help to shape the course of further investigations, on the chemotherapeutic process. As the biological complexity of the problem is realised, it becomes increasingly a matter for wonder and

admiration that so much of practical value has already been achieved—the treatment of the spirochætal infections, syphilis, yaws and relapsing fever, revolutionised; Leishmania infections, kala-azar and Baghdad boil, and Bilharzia infections, which crippled the health of whole populations in countries such as Egypt, now made definitely curable; trypanosome infections, such as the deadly African sleeping-sickness, after years of alternating promise and disappointment, brought now at last within the range of effective treatment.

Physiological Aspects of Parasitism

In the course of his address on the relationship of host and parasite in the field of plant pathology, Professor V. H. Blackman pointed out that resistance to disease is shown both in plants and animals, but the problem of immunity in plants is a far more difficult one than that with which the animal pathologist is faced. The acquired immunity due to one attack of a disease which is so common in animals is, unfortunately, quite unknown in plants, at least in relation to definite disease; one never finds that general bodily reaction which is so marked and characteristic of many infectious diseases in the higher animals. The parts of the plants are, of course, much less highly correlated than those of the animal body; there is no circulating blood stream by which the most distant cells of the body can with great rapidity be brought into physiological relationship. The absence in plants of a general bodily reaction to disease would seem also to preclude the possibility of the application to them of serum therapy. If, in spite of the absence from plants of the acquired resistance which is the basis of serum therapy in animals such sera could be prepared, there would be the great difficulty of distributing such substances throughout the plant. The question of the mode of entry of a parasitic organism into a host plant is one of great physiological interest and importance; for a barrier which the would-be invader cannot pass is one of the most obvious means of defence against fungal attack. Apart from entry through wounds, there are two chief modes of entry of the aerial parts of plants, either through a stomatal pore or by actual penetration of the superficial cells of the host. The entry through the stoma, at least in the case of a germ-tube, is clearly the most facile one, and it is somewhat of a biological puzzle that any germ-tubes should follow the hard road of epidermal-cell-penetration rather than the easy path of stomatal invasion where moisture and food material can so easily be obtained. Yet the germ-tubes of *Botrytis*, *Colletotrichum* and *Fusicladium*, for example, and the germ-tubes of the sporidia of Uredineæ, apparently never enter the open stoma, but proceed to bore their way laboriously through the epidermis. When plants are attacked by an invading organism we find very few phenomena analogous with the response to infectious disease of higher animals. When the susceptible forms are attacked we find no spontaneous cure, no recovery of the attacked cells. We have no evidence in the resistant forms of the productions of antibodies in either the susceptible or resistant forms; the death of the haustoria may be simply due to the death of the host cells in which they lie. It is true that we have a digestion of the haustorium, but this "phagocytosis"—since the digestion of the haustorium is associated with the digestion of the host-cell contents and takes place after the death of that host cell—may be nothing more than an effect of autolysis. Again, no general bodily reaction of the plant is apparent, each infection is highly localised, and each group of host cells fights a solitary battle independent of its neighbours. No analysis of plant resistance on the lines found so successful in animal disease can be achieved at present, nor is it likely in the future in view of the marked dissimilarities between the two. A consideration of the nature of disease resistance in plants thus leaves us with no expectation of finding means for endowing plants with artificial disease resistance. Apart from the protection of plants from infection by the use of fungicides, etc., our chief hope of combating disease lies in two directions—one, that of breeding disease-resistant forms of plants, and the other that of the enhancement of the natural resistance of the plant.

Chemistry and the State

Sir Robert Robertson, formerly Director of Explosives Research at Woolwich, and now Government Chemist, traced the development of the connection of the departments of State in the United Kingdom with chemistry. After giving a detailed account of the main chemical activities of the State and the work done in regard to matters affecting explosives, chemical warfare, metallurgy, Revenue questions, public health, agriculture, before, during and after the war, Sir Robert stated that a gradual development and ultimately a change in attitude in the relationship of the State to chemistry could be traced. From motives of security the State was compelled to give heed to chemical matters involved in its defence, such as those which appertained to munitions of war, including metals used in their manufacture; it was constrained to uphold the standard of its currency; and it was obliged to secure a revenue. As a consequence, the first chemical departments were set up in connection with these activities, and from them have emanated notable additions to chemical knowledge, improvements in methods of manufacture, and specifications for Government requirements that have led to improved material becoming available for civilian use. Although mostly conducted with inadequate staff, the study of these questions, it can be claimed, proved of national advantage when the time of need arose. In the next stage, the public conscience having been awakened by the pioneering work of Playfair, it appeared expedient to safeguard health by attention to sanitation, and, as the quality of food was unsatisfactory, to set up a chemical control. Although a start was made by Davy, a member of the then Board of Agriculture, progress in this subject passed to private enterprise, and a century elapsed before direct assistance was afforded to this important matter. Out of these activities come our present system of supervision over the purity of air, water and food, and also the recent progress made in the application of chemistry and physics to problems of the soil. The last and more recent stage is in the nature of a recognition that the State is under an obligation to assist science, and in this case the science of chemistry, on which so many important industries are based. It took the war to bring home the danger that, although the record of the country as regards discovery in pure science was unrivalled, its systematic application was too often left to other countries, with the result of lamentable shortages during war and the risk of many industries being ineffective in peace. A measure of Government intervention and action appeared requisite, and research became the business of a Government Department. Outside of the great firms which maintain progressive chemical staffs, the firms in numerous industries have been encouraged and assisted to co-operate in the betterment of their manufactures by the application of the methods of science, and from these associations and the organisations dealing with national problems begins to flow a stream of communications indicative of useful work accomplished. Nor is the foundation of it all neglected, for encouragement is given to workers in the academic field to follow out their ideas, whithersoever they may lead them, in accordance with the truth that "research in applied science might lead to reforms, but research in pure science leads to revolutions." In the expansion that has occurred in the chemical sections of State Departments since the war, it is interesting to note the increase in the number of chemists that are employed. As far as can be gathered, the number of chemists working in departments maintained wholly by the State is 375 for the present year, compared with 150 in 1912, while in establishments to which the State affords partial support, such as those under the Development Commission and the Research Associations, the corresponding numbers are 150 and 50. In addition, grants are made to 145 research students and to eleven independent research workers, involving a yearly sum of about £50,000.

OFFICIAL figures from the Ministry of Labour give the cost of living on August 1 as 71 per cent. above that of July 1914, compared with 70 per cent. a month previously.

Dutch Pharmacopœia Revision

Two further reports have been issued by the Dutch Pharmacopœia Commission, the president of which is Professor Dr. L. van Itallie, embodying the drafts of a selected series of articles in the form in which it is proposed to include them in the forthcoming issue of the new work. The first report, which dealt with a number of analytical innovations and included drafts of a few articles on chemical substances, was reviewed in our issues of January 12, p. 45, and January 19, p. 84. The reports now published include the drafts of a series of monographs relating to galenical preparations and drugs. One of the articles deals with the preparation of decoctions and infusions, and includes a table of the proportions to be adopted when the strength is not specified by the prescriber. The following are a few examples of the concentrations thus laid down:—*Digitalis*, 0.5:100; *ipecacuanha*, 0.5:100; *cinchona*, 6:100; *ergot*, 3:100; *senega*, 4:100. In the case of drugs not possessing an heroic action, in the absence of any indication in the prescription, the decoction or infusion is to be prepared on the basis of 10 parts of drug to 100 parts of expressed liquid. The monograph outlining the methods to be followed in the preparation of extracts stipulates that the ash obtained on incineration of an extract shall yield no reaction for lead, and the following limit-tests are given for copper and zinc:—The residue obtained on incinerating 2 grams of extract is boiled with 3 c.c. of dilute hydrochloric acid, water is added to make up to 20 c.c., and the solution is filtered. Hydrogen sulphide is then passed into the filtrate for one hour, whereupon the liquid is filtered and the filter washed with solution of hydrogen sulphide. The precipitate is dissolved in 5 c.c. of boiling dilute nitric acid, and the filter washed with 5 c.c. of water. The filtrate is evaporated to dryness, the residue dissolved in a small quantity of dilute acetic acid, and sufficient water added to produce 20 c.c. The resulting solution is divided into two portions; in one portion the addition of solution of potassium ferrocyanide should not produce a precipitate exceeding that obtained with a solution containing 0.01 gram of copper in 1,000 c.c.; in the other portion no precipitate should result, even after one hour, on the addition of two drops of potassium bichromate solution. The limit-test for the presence of zinc is carried out by boiling the filtrate and washing obtained after passing in hydrogen sulphide in the first part of the foregoing test, to remove the hydrogen sulphide, whereupon the liquid is made alkaline by the addition of sodium bicarbonate and completed to 20 c.c. with water. The precipitate produced on the addition of two drops of potassium ferrocyanide solution should not exceed that obtained with 20 c.c. of a solution containing 0.01 gram of zinc in 1,000 c.c.

There are several proprietary preparations in current use on the Continent embodying the principal alkaloids of opium in a form suitable for oral and also for hypodermic injection. A preparation of this nature is to be included in the new edition under the title

HYDROCHLORAS ALCALOIDEORUM PRINCIPALIUM OPII, and the Dutch Commission proposes, for the first time in a Continental pharmacopœia, to introduce as a synonym for the official title a specially coined designation, viz., "*Opial*." It consists of a mixture of:—

Narceine hydrochloride	...	...	2 grams
Thebaine hydrochloride	...	...	4 grams
Codeine hydrochloride	...	...	5 grams
Paraverine hydrochloride	...	...	8 grams
Sodium chloride	...	...	21 grams
Narcotine hydrochloride	...	...	60 grams
Morphine hydrochloride	...	...	100 grams

The maximum single dose for oral and hypodermic administration is fixed at 0.04 gram.

The increasing use which is being made of digitalis preparations for subcutaneous administration is reflected in the inclusion of an article for a standardised

LIQUOR DIGITALIS AD INJECTIONEM.—Solution of *Digitalis* for Injection: One part of powdered digitalis leaves is macerated with 8 parts of water for 48 hours, at a temperature not exceeding 15°, repeatedly shaking

the mixture. Strain and press, set aside to allow the liquid to deposit, remove as much as possible of the clear portion and filter the remainder. The united liquid portions are shaken vigorously for 48 hours with an equal volume of chloroform, in a flask which is almost completely filled by the contents, so that as far as possible an emulsion is formed. The chloroformic layer is then removed. A measured amount of the aqueous solution is evaporated on a water bath to the consistency of a thick extract, which is then mixed with sufficient desiccated sodium sulphate to produce a dry powder. This is vigorously shaken for 24 hours with the same volume of the chloroformic solution (i.e., an amount equal to that of the aqueous solution used in the foregoing); filter and remove the chloroform by distillation. Triturate the residue carefully with sufficient water to produce a solution, which causes the death of a cat in a dose of 2 c.c. per kilogram of animal, by the method described under *Digitalis Leaves*. Add to the solution 0.8 per cent. of sterilised sodium chloride; filter, and sterilise by heating for one hour to 70°–80° on three consecutive days.

LIQUOR DIGITALIS AD USUM INTERNUM.—Solution of *Digitalis* for Internal Use: Prepare a chloroformic extract of digitalis leaves according to the method described under Solution of *Digitalis* for Injection. Distil off the chloroform, and triturate the residue with sufficient water to produce a solution of which 1.7 c.c. per kilogram animal causes the death of a cat, according to the method described under *Digitalis Leaves*. Mix 85 c.c. of the resulting solution with 15 c.c. alcohol (95 per cent.).

A monograph is devoted to a description of the processes to be adopted for sterilising solutions, etc., which includes a list of 78 substances, with an indication of the individual method or methods of sterilisation to be used. The glass used in the preparation, storage or delivery of solutions of alkaloidal salts must not produce a crystalline precipitate when a solution of strychnine nitrate 2:1000 is sterilised therein in a current of steam at 100° for 1 hour, or in steam under pressure at 110° for 30 minutes. (Compare the monograph on Sterilisation in the new Italian Pharmacopœia, *C. & D.*, II, 1921, index folio 867.)

UNGUENTUM OXYDI HYDRARGYRICI FLAVI.—Yellow Mercuric Oxide Ointment.—Mix in a warmed mortar

Yellow mercuric oxide	...	...	5 grams
Water	...	...	5 grams
Lanoline	10 grams

and, after obtaining a uniform mixture, add

White vaseline	80 grams
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A yellow ointment, in which the diameter of the majority of the particles of yellow mercuric oxide should not exceed 4 μ , and that of the largest particles 20 μ . This ointment is to be prepared only as required.

In the monographs relating to drugs the commission has decided to limit the descriptions to the essential characters, giving sufficient information to enable the identification of the drug and the recognition of admixtures or adulterations, and microscopic data have been included only when macroscopic examination is inadequate for this purpose. On the other hand, a description of the microscopic characters of the powdered drug has been included, whenever it is used in that form in official preparations.

DIGITALIS ASSAY

The monograph on *Digitalis Leaves* is of particular interest, in view of the method of physiological standardisation which has been adopted by the Dutch pharmacopœia commission. Instead of using the frog as the test animal for the purpose of assaying the activity of this drug—the method hitherto usually employed—its toxicity on the cat is determined. The method is as follows:—Prepare an infusion of digitalis leaves 1:200, and add sufficient sodium chloride to produce a solution containing 0.9 per cent. of the latter. For the assay, cats weighing between 1.700 and 2.600 grams are used; the animals are anaesthetised with ether, and a tracheal canule is introduced, in connection with an apparatus to maintain artificial respiration. The infusion, warmed to body temperature, is injected into the femoral vein of

the cat from a calibrated burette, under constant pressure, and at such a rate that death occurs within a minimum of 35 and a maximum of 60 minutes. Death is assumed to have taken place when stoppage of the ventricle is produced. The animal used should not show signs of any definite pathological condition, or of pregnancy. The average of three tests, based on the amount of infusion required per kilogram of animal weight, indicates the activity of the digitalis leaves. A fourth, or more, tests have to be performed if one of the tests differs by more than 20 per cent. from the average, or if two tests show a difference of over 10 per cent. Digitalis leaves should possess an activity of 17.5 to 20 units, that is to say, 17.5 to 20 c.c. of the above infusion (1:200) represent the lethal dose for 1,000 grams weight of cat. By dividing 75 with this factor, the corresponding index ("Valor") according to Focke's (frog) method can be ascertained. In connection with the introduction of "cat units" for digitalis in the new Dutch pharmacopœia, it may be mentioned that Dr. Hatcher (*C. & D.*, I, 1911, index folio 738) suggested, as a method of determining the lethal dose of digitalis, injecting the drug together with ouabain into the femoral vein of a cat, but for several obvious reasons this method of standardisation failed to displace the more adaptable frog tests.

SHORT.—In Streatham, London, S.W., on July 28, Mr. William John Short, chemist and druggist, aged fifty-four.

STEDMAN.—On July 29, Mr. Samuel Stephen Stedman, chemist and druggist, for many years in business at the Old Maur House Pharmacy, Weymouth, aged eighty-six.

WATERHOUSE.—On August 12, Alderman C. H. Waterhouse, J.P. (J. Waterhouse & Co., Ltd., wholesale druggists, Ashton-under-Lyne), aged sixty-eight. Alderman Waterhouse, who was a son of the founder of the business, filled the office of Mayor of Ashton on two occasions.

WERTHEIMER.—At Bristol, on August 9, Mr. Julius Wertheimer, D.Sc., F.I.C., F.C.S., Professor of Applied Chemistry in the University, aged sixty-four. Professor Wertheimer was appointed principal of the Merchant Venturers' Technical College, Bristol, in 1890, and became a University professor (and Dean of the Faculty of Engineering) in 1909. He also served on the governing bodies of the Universities of London and Sheffield, wrote text-books on chemical subjects, and contributed extensively to periodical publications.

WHEELER.—At St. Anne's-on-the-Sea, on August 7, the widow of the late Mr. John Wheeler, Ph.C., Chipping Sodbury, Bristol, aged ninety-six.

Marriages

BRATTEN-McKERLIE.—At Virginhall Church, on August 7, Turner Bratten to Isa Love McKerlie, second daughter of Mr. John McKerlie, J.P., chemist and druggist, Thornhill, Dumfries-shire.

BUICK-INGLIS.—At the Tontine Hotel, Greenock, on August 14, by the Rev. James Buchanan, M.A., Charles Alexander Buick, M.P.S. (McNaughton & Buick, chemists, Port-Glasgow), to Jessie Yates, elder daughter of Mr. Matthew Inglis, 27 Nelson Street West, Greenock.

DREWETT-TOMLINSON.—At St. Egwin's Church, Honeybourne, on August 7, Richard John Drewett to Ethel Tomlinson, chemist and druggist.

HANDS-GOODE.—At the Oratory, Edgbaston, Birmingham, on August 2, Cecil Harry Hands, chemist and druggist, to Vera Goode.

Deaths

BURGESS.—In Westminster, London, S.W., on July 30, Mr. Thomas Burgess, chemist and druggist, aged sixty-seven.

CLARKE.—At Wimborne, Warley Road, Brentwood, on August 1, Mr. Herbert Clarke, chemist and druggist, aged sixty-eight. Mr. Clarke was manager at the Chelmsford branch of Parkes, Chemists, Ltd., for twenty-five years.

DAVIES.—At 73 Bridge Street, Derby, on August 14, Mr. William Alfred Davies, managing director of Davies, Sons & Co. (Derby), Ltd., manufacturing chemists. (See p. 297.) Mr. Davies had been in business in the town for twenty-five years. He leaves a widow and a son.

EWING.—At a nursing home in London, on August 13, Mr. James Allardyce Ewing, Thirlmere, Bexhill, governing director of J. A. Ewing & Co. (London), Ltd., colonial merchants, Ewing House, 73 and 74 Chiswell Street, E.C.1, aged sixty-seven.

HEWITT.—At Whipps Cross Infirmary, London, E., on August 5, Mr. Tom Lacey Hewitt, chemist and druggist, aged forty-three.

JONES.—On August 5, Mr. William Jones, chemist and druggist, Aberayron, aged thirty-six. Mr. Jones had been in business at Aberayron for thirteen years, and had served on the Urbau Council.

ROBERTSON.—At 1 Marshall Street, Dundee, recently, Mr. Alexander Robertson, chemist and druggist.

Personalities

MR. A. D. BRENCHELY, M.D., L.S.A., has been elected Master of the Society of Apothecaries of London.

MR. J. T. T. ROLFE, chemist and druggist, Faversham, has been elected to the committee of the local chamber of commerce.

MR. A. BECKWITH, wholesale druggist, Plantation Street, Burnley, and Mrs. Beckwith celebrated their silver wedding on August 9.

MISS B. K. DOIDGE, a member of the office staff of Breeze's (Plymouth), Ltd., manufacturing chemists, Plymouth, has been awarded a £500 prize in a beauty competition promoted by a newspaper.

WHILE fishing for "botchers" in the River Usk, on August 14, Mr. Henry W. Dix, chemist and druggist, Pontypool, hooked and, after thirty-five minutes, landed a 15-lb. salmon on a 10-ft. 6-in. trout rod.

In the recent examinations of the University of London Miss Mary Keall was successful in the Intermediate Arts, and Miss Elsie Keall in the General School Examination, with matriculation standard in mathematics, geography, English and drawing. Both are daughters of Mr. John Keall, London, S.W., member of the Council of the Pharmaceutical Society and Executive of the Retail Pharmacists' Union.

MR. E. T. NEATHERCOAT, C.B.E., J.P., ex-President of the Pharmaceutical Society, was entertained at luncheon recently by the Worthing Rotary Club, and gave an address on "The Pharmaceutical Society and the Pharmacist." In a forceful speech Mr. Neathercoat outlined the wide range of the work of the Society, and pointed out the value of the asset which the general public possesses in the practising pharmacists of Great Britain.

Wills

MR. THOMAS EDWARD RIDDLE, Hexham, pharmaceutical chemist and mineral water manufacturer, of the firm of Bell & Riddle, who died on December 23, 1923, left estate of the gross value of £9,799 9s. 7d., with net personalty £1,633 0s. 9d. Probate of the will has been granted to his widow, Mrs. Mary Ellen Riddle, John Steedman, Hexham Medical Officer of Health, and William Grace, 16 Windsor Terrace, Hexham. The testator left his estate to his wife for life with remainder to his children, directing his trustees to carry on his business as a chemist and mineral water manufacturer while they think fit.

Trade Notes

PRODUITS RADIACES.—The sole agents in Great Britain for Ramey powder, cream and other lines are The Galen Manufacturing Co., Ltd., New Cross, London, S.E.14.

NAIL BRUSHES.—Bidwell's, Ltd., Axminster, are offering in this issue special lines in high-class nail brushes, which are obtainable with either concave or convex backs, in satinwood and English beech. Each brush is packed in a carton.

KUENZLEN CHLOROPHYLL.—T. Harrison & Co., chemical merchants, Burnley House, Willesden, London, N.W.10, have acquired the sole United Kingdom agency for Chr. Kuenzlen, Sulzbach, manufacturer of "Kuenzlen Brand" chlorophyll.

"CHERRY BARKS."—Cupal, Ltd., Blackburn, predict, on another page of this issue, an even greater sale of "Cherry Barks" during the coming winter than last season, and are supplying new advertising matter and offering a bonus to chemists.

MALLAGH & Co., chemical merchants, 32 Great Dover Street, London, S.E.1, inform us that the fire at that address referred to in our last week's issue and in other papers has not affected their premises or stock, nor has it in any way disorganised their business.

SEED DRESSING SEASON.—Tomlinson & Hayward, Ltd., Lincoln, make in this issue a special announcement regarding requisites for the seed dressing season. We learn that they are pleased to quote and send samples of preparations needed by agriculturists at this time of the year.

SOUTHALL BROTHERS & BARCLAY, LTD.—Through a rearrangement of the advertisement section at the eleventh hour in our Educational Number last week, the page number of Southall Brothers & Barclay's advertisement was unfortunately given as 31 instead of 28. Will our readers please note?

NEW TRADE-MARK.—To prevent confusion with another name, Ward & Goldstone, Ltd., electrical engineers, Frederick Road, Pendleton, Manchester, are discontinuing the use of the word "Sonola" in connection with their wireless apparatus, and have registered the title "Goltone" in its place.

MALT EXTRACT.—Goodall Backhouse & Co., Leeds, draw attention, in their advertisement in this issue, to their latest packing style for malt extract, with or without cod-liver oil. Messrs. Goodall Backhouse have decided to add these goods to the "Velva" series, and are able to print the chemist's own name on the labels without extra charge.

FORTHCOMING BOOKS AND EDITIONS.—Among publications by J. & A. Churchill, 7 Great Marlborough Street, London, W.1, now in the press are "Volumetric Analysis," by Francis Sutton (11th edition, revised throughout); "Materia Medica," by Henry G. Greenish (4th edition); "The Examination of Waters and Water Supplies," by John C. Thresh (3rd edition).

PRUNOL.—We have received from Prunol, Ltd., 4 Pickering Place, St. James's Street, London, S.W.1, a sample of Prunol, a confection prepared, the label indicates, from prunes, senna, ginger and Demerara sugar. Entirely free from the mawkish taste usually associated with products containing senna, it should commend itself to nurses and others who are difficult to please when ordering laxatives of this class. Excellent results, we understand, have been attained with Prunol in colitis. Prunol is on the P.A.T.A. list.

LECTURES ON OPTICS.—During the winter session the British Optical Institute, Ltd., will give a series of short courses on subjects of interest to ophthalmic opticians. The first course, consisting of four lectures illustrated by slides, specimens, and practical demonstrations, will be devoted to "Nervous Apparatus of the Eye." Admission will be free to subscribers who apply for card, sending a stamped and addressed envelope to the Principal, Fern Lodge, Grove Road, Brixton, London, S.W.9, before September 12. The first lecture will begin on September

17 at 8 p.m., and the series will continue on September 18, 24, and 25.

TABLOID DESENSITISER is the latest addition of Burroughs Wellcome & Co., Snow Hill, London, E.C.1, to the number of photographic chemicals available in tabloid form. Packed in cartons of twenty-five, one tabloid is added to an ounce of water and the plate immersed in the solution, in the dark or by the light of a ruby lamp, for one minute, after which the plate is transferred to the developer; the process may then be continued in a weak yellow light. An alternative method is to dissolve one tabloid in each four ounces of developer.—Messrs. Burroughs Wellcome inform us that their warehouses will be closed for stocktaking on August 30, on which date only urgent orders can be executed.

Business Changes

WINDLE & Co., LTD., chemists, have commenced business at Station Road, Swanage.

TIMOTHY WHITE Co., LTD., chemists, have acquired premises at 116 Mortimer Street, Herne Bay.

INTEGRAR, LTD., manufacturing chemists, have removed from 8 Frederick's Place, London, E.C.2, to 170 Holland Park Avenue, W.11.

TILDESLEY, LTD., chemists (Mr. R. W. Tildesley, chemist and druggist, 62 Ruby Street, Saltburn, managing director), have opened a branch at 149 Linthorpe Road, Middlesbrough.

MR. E. F. CRAIG, chemist and druggist, has acquired the business of Harcombe Cuff, Ltd., chemists, Newbridge and Townwall Street, Dover, of which he has been manager for several years.

MR. J. A. LAVEROCK, chemist and druggist, has acquired the business of Mr. T. Johns, chemist and druggist, 38 Dock Road, Tilbury, of which he has been manager for the past three years.

THE business of Bateman's (Cash Chemists), Ltd., 3 High Street, Clapham, London, S.W.4, has been closed owing to the acquisition of the property for a "tube" extension. This was one of the oldest-established chemist's businesses in Clapham, and was formerly carried on under the style of Ashford & Co.

Deeds of Arrangement

Greaney, John G., "chemist," Manorhamilton, co. Leitrim (trading as the Breffini Pharmacal Co.). Dated July 26; filed July 28. Secured or partly secured creditors' claims, £395; unsecured, £647. Estimated net assets, £141.

Suter, W., & Co. (Alfred J. Warner and Peter Reeves, trading as above), chemical and glass merchants, 12 Edmund Place, Aldersgate Street, E.C. The following are among the creditors: Union Handelsvereinigung, Amsterdam, £17; Hoeckert & Michalowsky, Berlin, £11; Krauss, A., Bohemia, £334; Anton, Huyer, Bohemia, £120; Anton Deppe Söhne, Hamburg, £87; Société Anon. B. Siegfried, Zofingen, £193.

Information Department

INFORMATION WANTED

Postal or telephone information with respect to makers or first-hand suppliers of the undermentioned articles will be appreciated:

A/148. Ananol (for intestinal troubles)	E/188. Durin's Electric Em-brocation
A/208. Anti-Dipso (London supply)	E/148. Kurchi Bark Tablets
E/158. Brook's Insect Bite Lotion	W/198. Leake's Spleen and Bone Marrow Extract
E/188. Canadian Healing Oil	L/198. Luton's Hair Dye
A/208. Child's So-bo-So Fly for horses and cows	A/148. Menophene (Kirk & Trenton's)
B/198. Hypodermettes	D/208. Silium (with aluminium handle)

Observations and Reflections

By Xrayser II.

Your Educational Number,

while it "emphasises each year the increase in facilities which are offered to those who wish to acquire some form of 'qualification,'" does not deceive the prospective candidate as to the effort required to attain his end. Facilities may increase, but the difficulties do not, if we may judge by results, sensibly diminish; and your exposition of the course of study required for qualification may well make a young man pause before undertaking the task. For, as you say, he undertakes it usually "in order to make certain some means of livelihood." It is not, as a rule, a disinterested love of knowledge that moves him, nor is it the distinction which accrues to the recipient of academic honours or to one who attains to acknowledged professional rank. The chemist and druggist, though he follows an honourable calling, occupies a very humble position in it; he sits, so to speak, below the salt, and any distinction he may attain is the result of his character, not of his "qualification." A young man of a practical turn of mind, whose object is to get what we term a good living, will, after studying your "educational information," ask himself if the game is worth the candle, and I, for one, should not be surprised if he decides that it is not. I greatly doubt whether, looked at from a commercial point of view, the business of the chemist and druggist is worth what it costs him. A person of real business ability might, in my opinion, do better in many another trade.

This Point of View

is one to which, while British pharmacy remains to so large an extent a trade, we must always give consideration. It is true that there is no lack of candidates for qualification, but we have probably reached the point at which the tide will begin to ebb. The fact that so many qualified men find themselves without employment—and to some extent the very fact that they are qualified is a bar to employment—can hardly fail to have an effect; and the Society may find that the increased stringency of the examinations (for, whatever may be said of the syllabus, the examinations are more stringent), the almost avowed object of which is to check the rush of men into the trade, has been more effectual than was intended. At all events, there are good reasons why the difficulties of qualification should not be increased at present. The number of failures alone is sufficient to give us pause, and the uncertainty of our position in the N.H.I. scheme while the Commission is sitting is a still stronger reason.

I have Argued this Matter

from one point only. There are, of course, other considerations than the monetary one. For those who, reading between the lines, are able to appreciate your article on "Study and Success," qualification under the Pharmacy Act is well worth while. If the examinations had the effect of Gideon's tests, that is, if they weeded out all who have no real interest in pharmacy for its own sake, the case would be different; but they have not, and there is no indication that they ever will have. The purely "trade" element is more prevalent with us now than it was fifty years ago; we have made it the province of a separate organisation, the support of which costs us more than that of the Society itself, and in which many of us are a good deal more interested. The experience of eighty years ought to have shown the Society that pharmacy can only exist, as things are with us, on a basis of trade.

Those Elect Souls

who adopt pharmacy as their profession from pure love of it (I do not claim to be one of them) have the Major examination and all to which it may lead for their satisfaction. It is curious that this has been less altered during the period in which "Educate! Educate!" has been the prevalent cry than the Qualify-

ing one. There is no reason why it should not be made as exacting as they wish. Why don't they set about the task? The fact that they don't almost makes one sceptical as to the motive for making qualification more difficult. The insignificance of the Major in the general scheme of our education is shown by the scant space you devote to it. I suggest that if the Council would but decree a considerable strengthening of the Major and the restoration of Latin to the rank of a compulsory subject in the Preliminary, their zeal for education would be sufficiently evidenced without any further interference with the Qualifying examination.

The Returning Interest

in pharmaceutical scholarships which Mr. Skinner notes evidently does not satisfy him, and if I read him aright the reason it is not greater is a lack of system and clarity in setting forth the conditions of competition and the syllabuses of the examinations. In this connection I confess that two of the questions set for the Fairchild scholarship examination under the head of "Business Knowledge," viz., (1) and (2), appear to me out of place there. Mr. Skinner's complaint of vagueness in the information given may be met partly by the fact that students know more than is just enough to enable them to pass an examination.

The Doctor's Function,

says Mr. Harry Roberts, writing in "The New Statesman," cannot be summed up either as that of assisting or of overcoming nature; not only has he to do both, but "perhaps more often still a wise therapeutic consists in supplying her with some little piece of material that she needs for her work, in checking her exuberance, or in goading her into abnormal activity." But surely this "wise therapeutic" itself consists either of overcoming or of helping nature, being either a check or a stimulus, and the doctor's function therefore, though it cannot be summed up as either, may be summed up, as both without addition or qualification. It is reassuring to find, after all that has been said of "The Science of Medicine" (which is the title of Mr. Roberts's article), so trenchant a critic saying a good word for empiricism. "Provided the observations be real and searching (he says), empiricism is a scientific process enough." And still more reassuring is it for the pharmacist to be told that drug-medication has a future that will compare with its past, as modern chemistry compares with the alchemy of the dark ages.

The Letter "W"

is not rich in words of pharmaceutical interest. The last section to hand of the Oxford English Dictionary—"Wash" to "Wavy"—though it contains 1,564 words in all, has but some six or seven that really demand notice here, and they, all but one, occur under "Water." Water itself, of course, whether as a word or as a liquid, is of prime importance to the mediciner, but the word does not present us with any etymological problem; it is simply our modern form of the old Teutonic "water," from the Indogermanic root "wod." Historically, however, the word has several points of interest for us. As applied to the water of a mineral spring for external or internal use it is first found in 1542. Medicated and perfumed waters, from flowers, etc., are mentioned in early fourteenth century works; alcohol appears in 1460 as "brennyng watir" (*aqua ardens*). The dates of some noticeable compounds with "water" may also be given:—"Water-bath" (1824), "water-cure" (1842), "water-bed," for invalids (1853). Flower-names compounded with "water" are endless in number, but none of the plants bearing them is of much importance in medicine. Water-cress, as the quotations given under that word show, was formerly esteemed as a remedy for toothache and to ensure sound teeth. It was also a good deal used internally for scorbutic complaints, but there is nothing here to remind us of that. The water-lily was once official as a cooler, and the water-melon as a diuretic and aperient; but that, again, is not indicated here. The only plant-name in the section not under "water" is the Australian wattle.

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Editorial Articles

German Reparations Levy

IN connection with the agreements finally arrived at between the Allied Governments and the German Government at the recent London Conference, the British Government has decided to restore the rate of the Reparation (Recovery) Levy on German imports to the original figure of 26 per cent., as provided in the 1921 Act, in place of the reduced rate of 5 per cent. which has been in operation since February 26. This reduction in the amount of the levy was the outcome of an agreement concluded between the British and German Governments respecting the reimbursement by the latter to its nationals of the amounts collected by the British Customs under the Act, as it will be remembered that from November 17, 1923, the German Government ceased to refund the sums recoverable on the British Customs receipts, except in the case of contracts entered into prior to that date (*C. & D.*, March 1, p. 308). The announcement of the Government's intention to restore the levy on German imports to its original level of 26 per cent. has naturally been received with considerable interest, if not with some surprise, by importers in this country. However, in this connection it is necessary to

point out that the reintroduction of the original rate is dependent upon the conclusion of a new agreement with the Government of the Reich, and we understand that the levy will only be restored to 26 per cent. provided the German Government agrees to refund to its nationals the full amounts recoverable on the British Customs receipts in cash, as was the case prior to November 17, 1923. As matters stand at present, pending the result of negotiations between both Governments, it is impossible to foretell the date when the rate of 26 per cent. may be reimposed, or indeed whether the levy will eventually be raised from the present rate of 5 per cent. In German exporting and industrial circles the proposed restoration of the 26 per cent. Reparation Levy has called forth a storm of angry protests. In its first excitement at this announcement, the semi-official "Industrie- und Handels-Zeitung," prompted by the German Association for Foreign Trade, indulged in a violent tirade against the British Government. The restoration of the 26 per cent. levy was described as a "slap in the face for the execution of the Dawes Report," a "protective duty designed to exclude German goods" (curiously enough the Paris "Journal" falls into the same error of describing this step as a British safeguard against a dangerous competitor), and as a step chiefly dictated by considerations of foreign trade policy, viz., the anxiety of the British Government to possess a weapon with which to exert pressure on the German delegates in the forthcoming negotiations for the conclusion of an Anglo-German commercial agreement, since the British free trade tariff affords no compensatory objects for securing specially favourable treatment. Finally, a veiled threat was uttered that after January 10, 1925, when Germany regains her freedom of action in regard to her customs and foreign trade relations, she would be in a position to retaliate by imposing a special tax on British goods. Then it was suddenly discovered that all these conclusions were based on wrong premisses—in charity let us assume that apparently the authors of these fulminations had neglected to read the text of the Dawes Report with due care—consequently the Press had to explain that unfortunately these criticisms had by far overshot their mark, and that England was acting within her rights in maintaining the levy. A statement emanating from official circles in London is even adduced in the communication published by the "Deutsche Handelsdienst" for the purpose of allaying public opinion in Germany, wherein it is pointed out that the reimposition of the 26 per cent. levy on German imports does not add to the burdens of Germany under the Dawes plan, since the increase only affects the amount which the Agent-General for Reparations has to deduct from his cash requisitions on Germany. In this connection it may be mentioned in elucidation of the position that a clause in the Dawes Report stipulates that the proceeds of the £40,000,000 loan to Germany shall be used exclusively for financing internal payments, such as deliveries in kind, whether direct or by the operation of the Reparation Recovery Act. Article 4 of Annex III to the Protocol of the London Conference contains two provisions dealing with the disposal by the Agent-General for Reparation Payments of the receipts from the operation of the British Reparation Recovery Act, and it may be assumed that the negotiations between both Governments consequent on the proposal to restore the levy to 26 per cent. will centre round the question of establishing a *modus operandi*, during the transition period, whereby the German Government will refund to its nationals the sums recoverable on the British Customs receipts by drawing on the £40,000,000 loan.

The Rise in Rubber

THE sustained improvement in the price of rubber during the past few weeks has resulted in renewed activity in a commodity which, for some time past, has passed through a very critical period. During the past three months the average price for the quarter has been well below 1s. per lb.—the lowest level since the inauguration of the Stevenson restriction scheme. The pivotal price of 1s. 3d. per lb., which figure was in the minds of the legislators of the scheme, has undoubtedly been disregarded by recent happenings. Until the beginning of the month 60 per cent. of the standard production was allowed to be exported from Malaya and Ceylon, but in consequence of the low range of prices during the past quarter, there is a further reduction of 5 per cent. in the output this quarter, making 55 per cent. permitted production. This latter percentage will be in operation until the end of October, and if the price for this quarter does not average 1s. 3d., a further 5 per cent. will come off, thus reducing the production to 50 per cent. for the subsequent restriction quarter—November, December, January. In fact, it seems more than likely that three months hence the 50 per cent. output will come into operation unless there is a further appreciable and sustained advance in the market. It should be pointed out that hitherto the restriction scheme has operated in a comparatively mild way, and has, in fact, met with a fair amount of criticism on the ground that its provisions have been far too lenient to exert that influence in the market for which it was formulated. However, it is fairly certain that the severity of the scheme, once the price fell below an average of 1s. per lb., has been generally overlooked by consumers, and that such future criticism as may be levelled is more likely to be on the score of the too drastic nature of the scheme. It is therefore felt that there will be no shortcomings in making the scheme serve the object for which it was originally introduced by the Colonial Government, viz., to place the commodity upon a level at which operations could be carried out with a reasonable return for the capital invested in plantations. On the other hand, the protection against extremely high prices is fully safeguarded in the scheme by the exportable quantities being greatly increased whenever the market showed signs of a rapid advance, which would naturally tend to keep prices well within the range of consumers. To illustrate how prices have declined this year, we give below the average quotations ruling during the past seven months, ending July 31, compared with those of the corresponding period of last year; the prices (per lb.) refer to standard crêpe and ribbed smoked sheet:—

	Prices at beginning of month		1923		1924	
			s.	d.	s.	d.
January			1	2½	1	2½
February			1	5½	1	1½
March			1	5½	1	1½
April			1	4½	1	0½
May			1	3½	1	0½
June			1	3	0	10½
July			1	1½	0	10½

It will be observed from the above figures that, on the average, prices are 3d. to 4d. per lb. lower than last year. The weakest period of the year was in May, when the price fell to 9½d. on heavy liquidation from America; this collapse brought into prominence the need for a co-operative selling agency on the part of the leading importers of rubber in this country. The subsequent advance to 1s. 2d. clearly shows how necessary it was for importers to temporarily withhold supplies from the

market, as in May there seemed little to prevent the price falling even below the "record" low price of 6½d. experienced in the year 1922. There seems small prospect of the restriction scheme being withdrawn, as certain vested interests are anticipating, and from time to time questions have been asked in Parliament as to the advisability of maintaining the scheme; in each instance the Secretary for the Colonies has made it plain that no steps will be taken to interfere with the present legislation. As regards future prospects, the position to-day appears healthier than for some months past; the most important factor that will regulate the future course of the market is the quantity of rubber America will purchase in the course of the next few months. The recent anxiety of the Americans to buy spot and near-at-hand rubber clearly shows that the stocks held in New York must have been greatly depleted. The policy of buying from Singapore at prices which, on some occasions, are fully 5 per cent. over those ruling in London undoubtedly points to the fact that it is the policy of New York to keep away from the London market as much as possible, so that the stocks here are fairly high. As proof of this fact, we find that at the same period last year the London stock amounted to 48,574 tons, whereas at the present moment they total 50,335 tons, an increase on the year of 1,761 tons. Values during the next few months will fluctuate considerably, and although we do not consider that prices will advance more than 1½d. to 2d. per lb. above the present parity, there seems little likelihood of any substantial decline between now and the concluding months of the year. We therefore consider buyers would be well advised to cover part of their requirements at the present moment, as the premium on future rubber, such as October-December delivery, is much reduced and decidedly in buyers' favour.

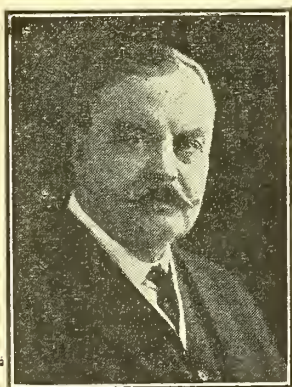
The Prevention of Disease

"PREVENTION is better than cure," but to prevent it is imperative not only to recognise the cause of the evil,

but also to command the knowledge, and means, to combat it. In recent years medical science has made enormous strides in the fight against many of the diseases to which man is exposed, and the advances realised were admirably reviewed in the presidential address, entitled "Prevention of Disease," read by Major-General Sir David Bruce, on August 6, at the annual meeting of the British Association for the Advancement of Science, held this year in Toronto.

Sir David first emphasised the enormous loss of power, and wealth, in a community through sickness, quoting figures adduced by the English Minister of Health, according to which upwards of 20,000,000 weeks of work are lost every year through sickness among the insured workers in England. In other words, the equivalent of the work of 375,000 people for the whole year was lost to the State, and when the corresponding figure for the non-insured population is added, some idea may be gained of the importance

of preventive work. The direct loss from sickness and disability in England and Wales is calculated to amount to at least £150,000,000 a year. In future, the President proceeded, medicine must change its strategy, and instead of awaiting attack must assume the offensive. After referring briefly to the work of Pasteur and Lister, the lecturer dealt with the results achieved by the application of their discoveries in the prevention of infectious diseases. The prevention of Malta fever, largely the work of Sir David himself, was based on the discovery that about 50 per cent. of the goats in the island were affected by this disease—that is to say, the source of supply of all the milk in Malta was the causal agent in spreading the infection. This is one way of preventing an infectious disease—that is to say, by the discovery of the living germ, the study of its natural history, and so to a means of stopping it reaching its victim, man. This is the best way of prevention. However, there is another, a less fundamental method of prevention, taking the form of inoculation, a method first employed against smallpox, and later against typhoid fever. Speaking broadly, it means that you subject a man to a mild attack of the fever in order that his blood and tissues will respond to the stimulus by producing anti-bodies. This method was initiated by Sir Almroth Wright at the British Army Medical School in the first place to lessen the mortality from this disease among our soldiers serving in India. In the South African war, before the method had been developed, in an army the average strength of which was only 208,000 there were 58,000 cases of typhoid fever and 8,000 deaths. In the great war, on the Western Front, with an average British strength of one and a-quarter millions, there were only 7,500 cases and 266 deaths. In other words, there were fewer cases of the disease in this war than there were deaths in the South African. It is also interesting to learn from French sources that at the beginning of the war the French soldiers were not inoculated, whereas the British were. The result for the first sixteen months was striking. During this time the French had some 96,000 cases, with nearly 12,000 deaths. The British had only 2,689 cases and 170 deaths. Afterwards the French soldiers were very thoroughly vaccinated, with the result that their immunity eventually became as striking as our own. Anti-typhoid inoculation certainly constituted one of the greatest triumphs in the prevention of disease during the recent war. A third method of preventing bacterial diseases is by the injection of specially prepared blood serums, known as antitoxic serums, the best-known examples of which are anti-diphtheria and anti-tetanic serum. Until recently tetanus was considered to be one of the most fatal of maladies, at least 85 per cent. of the cases succumbing to it. During the first period of the war, in August and September 1914, when anti-tetanic serum was available in small quantity only, and that for the purpose of treatment rather than prevention, roughly speaking, nine or ten out of every thousand wounded were attacked by tetanus and some 85 per cent. of these died. After the order had been given that every wounded man should receive an injection of anti-tetanic serum as soon after he was wounded as possible, the incidence fell to little more than one per 1,000, and the mortality to less than half. To put the matter broadly, during the war there were 2,500 cases of tetanus in the British Army, with 550 deaths. If there had been no prophylactic injection of anti-tetanic serum there would probably have been 25,000 cases with 20,000 deaths—a very striking example of the recent development in the prevention of disease.



Photo] [Elliott & Fry, Ltd.
SIR DAVID BRUCE

The President then dealt with the preventive measures at present generally employed against tuberculosis, briefly referring to tuberculin, before passing to a consideration of the protozoal diseases. Instead of citing the classical examples of malaria and yellow fever, Sir David instanced the preventive measures taken against the trypanosome diseases of Africa—sleeping sickness in man and nagana or tsetse-fly disease in the domestic animals. It was the work on the latter, the establishment of the fact that wild animals acted as the reservoir of the trypanosome, the tsetse-fly being the carrier, that led to the discovery of the cause and mode of prevention of sleeping sickness. By destroying the wild animals and the fly the disease has been stamped out in many parts, and it is by the organised destruction of the mosquito, the intermediate insect host in malaria and yellow fever, that the best chance of success in prevention lies, a method which so far has been productive of some brilliant victories over the spread of both diseases. In addition to the bacterial and protozoal infectious diseases, there is a third large class known as the "undetermined group," in which the parasite is either unknown or doubtful. Many of the diseases pertaining to this group are very common and familiar, such as influenza, measles, scarlet fever, smallpox, typhus fever, trench fever, dengue fever, sand-fly fever, and among animals, rabies, rinderpest, foot-and-mouth disease, and African horse-sickness. The theory generally held at present in regard to most diseases included in this group is that the living germs causing them are ultra-microscopical, in at least some part of their life history, and this is strengthened by the fact that many of them pass through porcelain filters which keep back the smallest of the visible bacteria. Hence the name "filter-passers." Many of these undetermined diseases are highly infectious and appear to infect at a distance through the air—as, for example, in influenza, scarlet fever, and smallpox. In some of them there is no attempt made at prevention, except that the sick are isolated and placed under quarantine. But in others there are well-known methods of prevention even when the virus is quite unknown. The best example is smallpox, the ravages of which have been completely held in check since the memorable discovery of Jenner. Another well-known disease with an unknown virus, rabies, or hydrophobia, has also, by the genius and intuition of Pasteur, been robbed of many of its terrors. The mortality following bites of rabid animals has fallen from 16 per cent. to less than 1 per cent. Among the diseases of undetermined origin a few are slowly emerging from the unknown. One of the most interesting of these is trench fever, which came into great prominence during the war. It became one of the most powerful factors in reducing our man-power, probably more than a million cases occurring among the Allies on the Western Front. In 1917 in the Second British Army alone, out of a total of 106,000 admissions to hospital at least 20,000 of the cases were trench fever. However, it was not until 1918, as a result of the work of two committees, that it was proved that the louse was responsible for spreading the disease, although the actual causal germ has, as yet, never been recognised in the human blood or tissues, probably on account of its extreme minuteness. Sir David then discussed other diseases of this interesting group, typhus fever, Rocky Mountain fever, sand-fly fever, and Japanese river fever, mentioning that antitoxic serums have been used with some measure of success in the prevention of several of the affections due to "filter passers." Degle-

witz and others in Germany are reported to have been very successful in protecting children from measles and scarlet fever by injecting them with a small quantity of serum from convalescent patients. But far more hopeful than protection by serum alone is the use of a vaccine to produce a lasting immunity, combined with antitoxin to prevent the vaccine from producing unpleasant results—the so-called toxin-antitoxin method. Sir David then turned to a consideration of the deficiency diseases, and after reviewing the history of the discovery of vitamins, and the present conception of their rôle in nutrition, dealt with their bearing on rickets. He then touched upon the advances in our knowledge of the diseases caused by a defect or excess of secretion of the ductless glands, instancing in this connection the anterior lobe of the pituitary gland, the thyroid, and the discovery of insulin. The President, in the concluding portion of his address, paid a warm tribute to the activities of the Rockefeller Foundation. Science, indeed, knows no boundaries of nations, languages, or creeds. It is truly international. The advance of knowledge in the causation and prevention of disease is not for the benefit of any one country, but for all. But, Sir David said in closing, let there be no mistake; much has been done, but much more remains to be done. Mankind is still groaning and travelling under a grievous burden and weight of pain, sickness, and disease. Interruptions are sure to come in the future as they have in the past in the work of removing the incubus, but, in spite of these, it is the duty of science to go steadily forward, illuminating the dark places in hope of happier times.

Key Industries

On August 19, Part II of the Safeguarding of Industries Act, 1921, dealing with the "prevention of dumping," which has been in operation for a period of three years, came to an end, whereas Part I of the Act, dealing with the imposition of an import duty of 33½ per cent. on various chemicals, etc., continues for another two years, expiring on October 1, 1926. It will be remembered that Part II of the Act provided machinery for the imposition of Customs duties of 33½ per cent. for three years on goods to which certain conditions described in the Act were found to apply. The object of this part of the Act was to safeguard industries against dumping, provided that if, on complaint being made, it appeared to the Board of Trade that goods of any class or description, other than articles of food or drink, manufactured in a country outside the United Kingdom, were being sold or offered in the United Kingdom,

(a) at prices below the cost of production; or

(b) at prices which, by reason of depreciation in the value in relation to sterling of the currency of the country in which the goods are manufactured (not being a country within His Majesty's Dominions), are below the prices at which similar goods can be profitably manufactured in the United Kingdom, and that by reason thereof employment in any industry in the United Kingdom is being or is likely to be seriously affected.

It appears that no action whatever was taken to provide against dumping of the first kind, because it was impossible to secure satisfactory evidence as to the cost of production abroad and in this country. In regard to the second form of dumping, a large number of cases were mentioned to the Board of Trade, but the majority of them were not proceeded with. Fifteen complaints, however, were referred to committees, and in five cases the reports of the committees justified the making of an order. Complaints of the sale in the United Kingdom at prices below the cost of production in the country of manufacture which were referred to committees related to glass bottles made in Holland, but the complaint failed and no order was made.



BRITISH EMPIRE EXHIBITION

Described and Illustrated

VII

Canada

CANADA is represented by three buildings situated near the lake, the largest pavilion housing the Dominion exhibits; the others, situated one on either side, are devoted to the Canadian Pacific Railway and the Canadian National Railways respectively. In each section great stress is laid on the latent wealth of the country and a strong appeal to go there is made to all classes, either as settlers, sportsmen or tourists. Representing an area of 3,729,665 square miles and a population of 8,966,834, the Dominion exhibit conveys the impression that Canada has indeed been generously dealt with by Nature as, not only possessing vast resources, such as forests, furs, minerals, millions of acres of agricultural land and water power, but has, in some of them at least, a virtual world monopoly. The mineral section will be of great interest to chemists, for here are to be seen samples of ores from every producing mine, including gold, silver, copper, nickel, asbestos, lead and zinc, together with the refined metals and several of their salts, mining being, after agriculture and forestry, Canada's greatest basic industry. The value of the mineral deposits was first appreciated early in the seventeenth century, when iron was mined in Cape Breton. In addition to the valuable coal reserves, extensive oilfields exist, as will be gathered from the shale exhibit, in the western provinces, where they remain practically untouched, though some smaller fields in Ontario have been exploited. Nickel deposits at Sudbury, Ontario, are stated to be as large as all others in the world combined, and from these is produced six-sevenths of the world's supply. A few of the uses to which the metal is put are also shown in this section. The copper deposits are not of so great extent, but an increase in the production of the metal and of the sulphate is foreshadowed. In production value for Canada last year copper ranked third with 87,942,458 lb., valued at \$12,682,182, which was more than double the output for the previous year.

OUTPUT OF ARSENIC

Arsenic is obtained in large quantities as a by-product in the smelting of silver ores; and a specimen of the latter from Keeley mine, Lorraine, Ontario, measuring 3 ft. long, 3 ft. high, 2 ft. wide, and weighing 4,402 lb. avoirdupois, should not be missed. With silver at 32½d. per oz., the value of the silver content in this is estimated at £3,549 2s. 8d. The production of arsenic has gone ahead considerably, last year's figures showing a substantial increase over 1922. Insect poisons with an arsenic base have been in great demand in the United States to fight the boll weevil, which is the enemy of the cotton crop. In 1923 white arsenic was recovered from Canadian ores to the amount of 3,645 tons, which was valued at \$878,348. For the previous year the amount was 2,576 tons, with a valuation of \$321,037. Chrome concentrates to the amount of 2,925 tons were shipped last year, the valuation being \$46,800. The year previously 767 tons were shipped, worth \$11,503. Official reports do not record any shipments of manganese last year, though deposits in Lunenburg County, Nova Scotia, and near Kelso, British Columbia, were worked on a small scale. The total production of platinum last year

was 1,217 oz., valued at \$141,826; palladium, 1,732 oz., valued at \$118,902; rhodium, 206 oz., valued at \$18,540; iridium, 98 oz., valued at \$22,417. Practically all the above were recovered in the refining processes of the nickel companies. The production for 1922 was in value: Platinum, \$45,783; palladium, \$47,060; rhodium, \$31,360. Canada was, in 1921, the world's third largest producer of gold; and in 1923 the output was 1,223,601 oz., valued at \$25,294,076, which was slightly lower than in 1922. The Dominion is also a large producer of magnesite and mica, while the asbestos deposits in Southern Quebec are unrivalled. Many specimens of each, the last-named in various stages from the raw material to the manufactured article, are shown. The major portion of the world's supply of cobalt has for many years been obtained from a mining district of the same name in Ontario, the metal and salts being derived from the silver-cobalt-nickel arsenides. The zinc mining industry has made great strides of late years, mainly on account of the application of the electrolytic method of treating the lead-zinc ores of British Columbia, the progress being demonstrated by the rise of the country among the world's producers from an insignificant position in 1913 to fifth rank in 1922. Many samples of gypsum are exhibited; this occurs throughout the Dominion, being chiefly produced in Windsor, Nova Scotia, Hillsborough, New Brunswick, Paris, Ontario, and Gypsumville. There are also to be seen several varieties of talc, natural sodium sulphate crystals, sodium carbonate, molybdenite, chromite, feldspar, manganese, and others, while those of galena and pyrites should not be neglected by wireless enthusiasts. Before the war the production of molybdenite in Canada was practically *nil*, and there were very few known deposits, but the new demand led to so much interest and activity that there are now about 350 recorded occurrences. The Imperial Government apparently did not realise the hidden resources within the Dominion, and early in 1919 cabled that British war requirements in molybdenum were filled. Prices suddenly fell, and operations ceased at a time when extensive production from the better-known deposits was getting well under way. In the peak year of 1918 Canada became the second largest world's producer of molybdenum. Most of the output came from a deposit at Quyon, Quebec, thirty miles west of Ottawa, which for some time was the world's leading individual producer. During the war period molybdenite was mined from 110 different properties, from thirty of which over five tons of ore were shipped or treated. Molybdenite occurs in practically every province in Canada, but the greatest number of known deposits lie within a wide 150-mile belt to the west and south of Ottawa. Although there has been no production from Canada during the last four years, at least four companies, who were too late to ship during the war, have continued the development of their properties and contemplate producing in the near future. Stocks are now greatly diminished and commercial uses are steadily increasing, so that it is confidently expected that mining will soon be resumed.

DRUGS AND CHEMICALS

Pharmaceutically, the exhibition of forest products is not striking. Transverse sections of maple, birch, soft elm, mountain spruce, Eastern hemlock and Douglas fir are shown microscopically, x 175, and in a case labelled

miscellaneous, tree products are samples of cedar leaf oil, Canada balsam, Douglas fir balsam, extract of hemlock, oil of hemlock, oil of spruce, maple sugar, malic acid, spruce gum, liquid spruce gum, and extract of cascara, but there is no cascara bark. A few chemicals, such as acetic acid, formalin, guaiacol, ketones and creosote oils are representative of the distillation of hard wood, the woods chiefly employed for this purpose being birch, beech and maple. Though during the year ended March 1923 the imports were \$25,800,000 and the exports of Canadian products \$14,000,000, a considerably better chemical display could have been made. In 1920, some 72,860 short tons of sulphuric acid was manufactured, the materials used being 38,616 tons of Canadian pyrites and 13,500 tons of imported brimstone. More recently, the acid has been made by a plant in Ontario, consisting of two acid chamber units, with a daily capacity of 120 tons. Calcium carbide is also manufactured on a large scale, and exports of it increased in value from \$161,000 in 1914 to \$2,261,000 in 1922. The fixation of nitrogen with its many subsidiary industries, the reduction of magnesium and the production of innumerable chemicals required in special trades, are also under commercial development. The chemicals which enter into the sulphate and sulphite pulp processes are depicted, but a branch of the chemical industry which might have been featured is coal tar products, yet practically the only evidence of these and calcium carbide are exhibited in the

COMMERCIAL SECTION

by the Dominion Tar and Chemical Co., and the Canada Carbide Co., Ltd. The latter have an interesting display, showing a number of chemicals, such as acetic acid, acetaldehyde, paraldehyde, ethyl acetate and butyric acid, manufactured synthetically from acetylene gas. In this section there is also a good display of violet ray apparatus arranged by Charles A. Branstom, Ltd., but pharmacists will no doubt find greatest interest in the exhibits of shaving, hair and other brushes by Simms & Co., Ltd., and Stevens-Hepner Co., Ltd. (the London agent for both businesses is Calnan's, Victoria, S.W.), and at the stands of Colgate & Co., Ltd., and Palmolive Co. of Canada, Ltd., both of the last-named showing their well-known toilet preparations. An illustrated booklet setting forth the manufacturing method and policy of Messrs. Simms is obtainable from Mr. Calnan, who will supply a copy and price lists on application. Among the rubber goods figured at the stands of the K. and S. Tire & Rubber Goods Co., Ltd., Dominion Rubber Co., Ltd., and Sterling Rubber Co., Ltd., are hot-water bottles, breast-relievers, sprays, air cushions and rubber gloves, but these generally dwarfed by other articles of the same material. Packing cases are to be seen at one or two stands, notably H. R. Macmillan Export Co., Ltd., whose agents in this country are Canusa Trading Co., Ltd., Old Broad Street, London, E.C. One other exhibit which must be mentioned is that of the University of Toronto, where various stages in the manufacture of insulin are depicted.

THE RAILWAY PAVILIONS

Of the railway exhibits, that of the Canadian Pacific appears to receive the greater attention of the visitors, a partiality not surprising in view of its wider appeal. Half of the pavilion is devoted to the industrialist and the remainder to the sportsman and tourist, the working models here and in the Dominion exhibit proving a Mecca for children, and attention is called to Canada's natural resources by illuminated signs. Many of the minerals previously mentioned are displayed here, and some excellent samples of their salts are worthy of notice. Specimens of quince fruit preserved in its natural state, honey and flax are also to be seen. The Canadian National Railways call attention to the scenic wonders of the country and replicas of the interiors of the railway coaches (this is one of the largest railway systems in the world, covering 22,663 miles) show the luxury in which the visitor or immigrant travels. A few agricultural products and animals are also shown. Data regarding production, imports and exports of all commodities are regularly compiled by the Dominion Bureau of Statistics at Ottawa, and the recent institution of the Mining, Metal-

lurgical and Chemical branch of the Bureau is of considerable interest. Information on all matters concerning the Dominion may be obtained in this country from the Canadian Government Trade Commissioner, 73 Basinghall Street, London, E.C.2, and from Mr. D. S. Cole, who occupies a similar position at Bristol.

Newfoundland

The exhibits of this, our oldest, colony, are housed in a severely plain square pavilion of modest size, adjoining H.M. Government building, and with one exception are of little interest to the drug trade. The exception is, of course, cod-liver oil, which is represented by one manufacturer, Mr. W. A. Munn, St. John's, Newfoundland, whose London agents are Harrington & White, 1 Leadenhall Street, E.C. Mr. Munn, who has made genuine non-freezing cod-liver oil for over forty years, has a table display of the finest medicinal quality of a bright yellow colour in a number of graduated elegant vases and pound bottles. Behind the table is a boiler and liver-pan exactly as used in the manufacture. The whole forms an attractive exhibit, which is in no danger of being overlooked, as it is placed in the centre of the room. No particulars are given of the amount of trade done, but it is common knowledge that Canada and the United States are the largest buyers of Newfoundland oil, and that comparatively little comes to England. We fear also this year that with the enormous output of the Norwegian product at moderate prices there will be little, if any, competition with Newfoundland, which comes on the market later in the season. In Newfoundland the cod fishing takes place principally during the summer months, and has to support a large number of the population to a great extent for the whole year, whereas in Norway the catch of codfish is a winter fishery, and the population are not entirely dependent on it. Therefore, given equality of price, Newfoundland deserves more support from England, as the quality is quite on a level with that of Norwegian medicinal oil. In such a bountiful year as the present it is, of course, doubtful whether it will pay the Newfoundland makers to spend the extra labour and cost in producing the finest medicinal oil instead of the heavier and less expensive cod oil which still holds the premier position, because, being heavier and having more body, it makes it most suitable for leather dressers. We may add that Newfoundland cod-liver oil is all manufactured under Government control, and no factory is allowed to make oil until a licence has been granted. Any refiner who attempted to use the liver of any other fish than cod for making cod-liver oil would have his licence cancelled immediately. The other exhibits from the Colony are chiefly devoted to minerals, comprising specimens of lead, copper, molybdenite, gold quartz, chrome, manganese ore and iron ore, of which last Newfoundland is computed to possess a sufficiency to supply the world's needs for the next three thousand years. The manufacture of pulp and paper is a big industry in Newfoundland, and these products are shown in the various stages of their manufacture.

Malta

Malta has a pavilion constructed on lines typifying the military architecture of the days of the Knights of St. John, and is divided into three parts, the third containing an exhibit of agricultural products, wines and tobacco. The agricultural products have been collected by Professor J. Borg, M.A., M.D., Superintendent of Agriculture, Malta, and are all representative of their class, but a number of them are not so well displayed as they might be. The exhibit takes the form of an open stand backing the wall, on which a number of show bottles are placed. Among them are specimens of thickly-cut and finely-cut prepared squill, anise, almonds, coriander, wild fennel seed, Gozo elaterium and Maltese elaterium of the usual pale-greenish cake. Bleached and unbleached beeswax in cakes is also shown.

ASPIRIN TRADE-MARK IN CANADA.—The Canadian Supreme Court has reversed the decision of the Exchequer Court in the aspirin case, and has upheld the registration of "aspirin" as a proper trade-mark.

Trade Report

The prices given in this section are those obtained by importers or manufacturers for bulk quantities or original packages. To these prices various charges have to be added, whereby values are in many instances greatly augmented before wholesale dealers receive the goods into stock, after which much expense may be incurred in garbling, packing, etc. Qualities of chemicals, drugs, essential and fixed oils, and many other commodities vary greatly, and higher prices than those here quoted are charged for selected qualities of natural products even in bulk quantities.

42 Cannon Street, E.C.4, August 21.

THE initialing of the London Agreement on the Reparations question has undoubtedly given a feeling of more confidence in commercial circles generally, but the week as a whole in the produce markets has been disappointing, owing chiefly to the renewed setback in sterling and francs, which have declined appreciably. Menthol and Japanese mint oil have been distinctive features this week, and a fair amount of business has been done at advancing prices. American peppermint oil is strong and cassia oil has advanced 6d. Chamomiles are on the weak side in view of heavy crop anticipations. Senega to arrive is firmer; cascara sagrada is quiet and inactive. Among pharmaceutical chemicals business continues limited, with a further all round advance in bromides. Bismuth metal having been reduced 2s. 6d. per lb., the bismuth salts have been correspondingly lowered. Chloral hydrate is firmer. Citric and tartaric acids are cheaper, the unseasonable weather curtailing buying. Sodium salicylate and phenolphthalien are easier. Strychnine and salts have been reduced by makers. Industrial chemicals show few movements, business continuing restricted in volume. Alum and sal ammoniac are a shade easier, and a reduction has been made in sodium acetate. In coal tar products pyridine shows an advancing tendency, and creosote oil is steadier. Among fixed oils there has been less animation, but prices are fairly well maintained. Linseed oil is unsteady; turpentine has been dull and easier. Castor is firm without further change, and ground nut shows a further advance. Cod-liver oil is dearer.

Higher	Firmer	Easier	Lower
Bromides	Chloral hydrate	Anise (Span.)	Bismuth salts
Cassia oil	Juniper-berry	Bergamot oil	Cadmium
Cod-liver oil	oil	Dextrin (Amer.)	sulphide
Gambier	Palm kernel oil	Lubricating oils	Citric acid
Ground-nut oil	Pyridine	Oxalic acid	Emetine bis-
Menthol	Senega	Phenolphthalien	muth iodide
Mint oil (Jp.)		Sal ammoniac	Emetine per
		Soda salicylate	iodide
	Steadier	Tartaric acid	Sassafras oil
		Turpentine	Sodium acetate
	Creosote oil		Strychnine
			and salts

Exchange Rates on London

The following is a list of Continental and other exchange rates against the pound sterling on London prevailing at 4 p.m. on Wednesday:—

Place	Method of Quoting	Par of Ex- change	August 13	August 20
Amsterdam	Fl. to £	12.107	11.60-11.60½	11.57-11.59½
Berlin	M to £	20.43	19.15-19.30 bilns.*	18½-19½ bilns.*
Brussels	Fr. to £	25.22½	87½-87½	88½-90½
Calcutta	Per rup.	24d.	17½d.-17½d.	17½d.-17½d.
Christiania	Kr. to £	18.159	32.43-32.47	32.43-32.52
Constantnple	Pst. to £	110	844-854	830-845
Greece	Dr. to £	25.22½	253-254	244-246½
Italy	Lire to £	25.22½	100½-100½	100½-101½
Kobe	Per yen	24.58d.	21½d.-22½d.	21½d.-22½d.
Lisbon	Escu.	53½d.	1½d.-1½d.	1½d.-1½d.
Madrid	Pts. to £	25.22½	33.60-33.62	33.63-33.70
Montreal	\$ to £	4.86½	4.55-4.55½	4.47½-4.51
New York	\$ to £	4.86½	4.54-4.54½	4.47½-4.50½
Paris	Fr. to £	25.22½	80.80-80.90	82.70-83.80
Singapore	Per dol.	—	27½d.-28½d.	28d.-28½d.
Switzerland	Fr. to £	25.22½	24.06-24.08	23.83-23.95
Vienna	Kr. to £	24.02	322.000-324,000	315,000-325,000

* Nominal.

Cablegram

NEW YORK, August 20.—Business is quiet. Opium has advanced to \$11.00 per lb., and menthol is \$1.50 higher at \$13.00. Curaçao aloes are dearer at 10c., and hydrastis has advanced to \$3.60. Senega is cheaper at 55c., and euonymus bark of root (wahoo) has declined to 90c.

Crude Drugs, etc.

ALMOND OIL.—English pressers quote sweet B.P. (ol. amygd. dulc.) at 3s. per lb., one-cwt. lots being 2s. 10d. Ol. amygd. ess. ang. is 44s., and s.a.p. 45s. per lb.

ANTIMONY.—The tendency is firmer, the market being faced with more restricted supplies, while English refiners have had to refuse orders lately for 20-ton lots. Ordinary brands may be called about £45, while an increased premium is wanted for special brands, which range up to £50. Flood disturbances in China have certainly influenced the market and caused offers from that quarter to be chiefly withdrawn for the moment. Spot lots of Chinese are more firmly held at £41.

ARECA.—To arrive 52s. 6d. per cwt. c.i.f. has been paid.

BALSAM TOLU remains very scarce on the spot, and for single cases probably 9s. 6d. would have to be paid. A fair forward business has recently been done at about 6s. 6d. c.i.f., but higher prices are now asked.

BELLADONNA ROOT has been in little inquiry of late, sellers quoting about 50s. to 55s. c.i.f.

BISMUTH.—After having remained pegged for considerably over a year at 10s. the "ring" price for the metal was reduced by 2s. 6d. per lb. to 7s. 6d. per lb. as a result of a decision, which, we understand, was come to on Monday night. This decision is attributed to the fact that the steady increase in current supplies for some time past not only from Bolivia, but also from other sources, including Spain and Australia, led to the accumulation of a considerable surplus at this end, while at the same time there has been some falling off in the trade demand of late. The action taken by the "ring" is doubtless intended to facilitate the disposal of this surplus. See also "Bismuth salts" (p. 318).

CAMPOR (REFINED) remains dull at 2s. 11d. per lb. for Japanese refined slabs, and for August-September shipment 2s. 10d. c.i.f. is quoted.

CASCARA SAGRADA.—The "Steel Age" has brought 2,425 sacks from Portland (Ore.) and 831 sacks from Seattle to London. Market is quiet.

CHAMOMILES.—Prices quoted from Belgium show a wide range and have fluctuated severely; from 130s. to 160s. per cwt. c.i.f. is quoted for prompt shipment. A few bales of first pickings of fine white quality have been sold at 160s.; some samples we have inspected described as first pickings, show a good-sized flower, but the colour is dull greyish white mixed with a few brownish; these are selling at from 135s. to 145s. for prompt shipment. As yet, arrivals on spot have been very small, and buyers hold off in the anticipation that dealers will bring forward stocks, but in view of the anticipated large crop and weak undertone to the market, everybody shows a disposition to hold off. Belgian growers are waiting a spell of fine weather before collecting the bulk of the crop.

CINCHONA.—At the Amsterdam auction, to be held on Wednesday, August 27, 521 packages (336 bales and 185 cases) Java pharmaceutical bark, weighing 25,193 kilos, will be offered, the total weight being 25,193 kilos and the quinine content 665 kilos.

CLOVES are steady, with spot sellers of Zanzibar at from 1s. 0½d. to 1s. 1½d. per lb. as to quality. For October-December shipment business has been done at 9½d. per lb. c.i.f., being slightly easier. For the week ended August 16 the landings in London were 150 bales, and the deliveries 430 bales, leaving a stock of 24,369 bales, against 12,919 bales in 1923 and 2,795 bales in 1922. The landings so far this year have been 37,514 against 26,029 in 1923, and the deliveries 32,522 against 15,139 last year.

COD LIVER OIL.—Our Bergen correspondent writes on August 18 that the market was very agitated last week, sellers demanding 95s. to 100s. per barrel c.i.f. London for non-freezing steam-refined quality, and 95s. to 96s.

was paid. The general opinion is, however, that this rise is only transient, and buyers have now retired. In London agents report a better demand, and up to 102s. 6d. per barrel has been paid for finest Lofoten medicinal quality.

ERGOT is quiet, with good sound Polish offering at 1s. 1d. per lb. on the spot.

GALLS.—Chinese are slow of sale at 60s. for ordinary and 66s. per cwt. for plum-shape; to arrive 54s., and 63s. c.i.f. is quoted respectively.

GAMBIER is dearer at 70s. per cwt. on the spot, and for August-September shipment 63s. c.i.f. is quoted.

GENTIAN is in fair demand on the spot, and for good French 38s. per cwt. is wanted.

HYDRASTIS.—The price in U.S. has again advanced, but it is still possible to buy on the spot at 18s. per lb., and the forward price is about 17s. 3d. c.i.f.

LAVENDER FLOWERS.—The new French crop is reported small this year, and to come forward from 160s. to 180s. per cwt. c.i.f. is quoted as to quality.

MAGNESIUM.—The demand has been fairly well maintained, and prices are steady at about 3s. 3d. to 4s. per lb., while there is but little Continental coming on offer. Inquiries for powder are restricted, with holders asking 4s. 6d. to 5s. 6d. per lb.

MENTHOL.—Shortly after the close of our last report, the spot market declined to 50s. to 51s., but on Friday recovered to 54s. to 55s. per lb. This week, however, the advance has been more sustained, and on Wednesday 57s. 6d. was asked for Kobayashi-Suzuki. A fair amount of business has been done for account of the U.S.A., the Continent, and home consumers. August-September shipment is now nominal at 57s. c.i.f., but there are no firm offers from Japan except for distant shipment.

MERCURY.—Business has been slow, but the tone is steady, with quotations ranging from £13 2s. 6d. to £13 8s. per bottle. Transactions were arranged at both figures for small lots. Export business has been very limited, the few lots booked lately having been for China and India. There is no alteration in the first-hand position, which seems firmly maintained, but the outlook remains uncertain, being in some degree dependent on possibilities as to new buying for the United States. Ample stocks exist here and London is the cheapest market. The U.K. imports for July amounted to only 740 bottles, making for the seven months a total of 18,153 bottles, against 25,405 bottles for the same period last year.

OLIVE OIL.—Extra choice vierge is quoted at 8s. 3d., extra vierge 8s., fine cream 7s. 6d., and pharmaceutical 7s. 3d. per gallon in barrels.

According to an Italian report the campaign just closing has been very satisfactory; detailed statistics are not yet available, but it is expected that the results will show the industry fully restored to pre-war levels and conditions. Reports from the various centres as to the new season's yield vary, but on the whole the crop is expected to fall considerably below last year's, the hopes nurtured in the spring not having materialised owing partly to unpropitious climatic conditions during the flowering season and an abnormal prevalence of blight.

OPIMUM.—The following report has been received from Turkey:—

CONSTANTINOPLE, August 6.—“During the period July 24 to date, arrivals were as follows: Druggists' 44, 'softs' 2, and Malatia 17 cases, while the stocks amounted to: Druggists' 155, 'softs' 12, and Malatia 14 cases. During the past fortnight sales consisted of: 35 cases of druggists' at £T30-35½, 7 cases of 'softs' at £T36-42, and 14 cases of Malatia at £T30-34 per cwt. From Salonica an order was placed for the purchase of 35 cases without any price limit, which naturally had the effect of maintaining prices. It is no secret that several exporters have cleared their stocks and are awaiting a favourable moment for securing supplies. On the other hand, there are indications that point to an agreement between the dealers in the interior not to dispatch opium to places from whence it is exported. However, we believe that the culminating point has been reached, as a slight decline is now apparent. Several lots abroad continue to change hands among speculators.”

PIMENTO is steady, with spot sellers at 3d. per lb., and to arrive 23s. 6d. per cwt. c.i.f. has been paid. The stock is 1,552 bags, against 6,728 bags in 1923.

RUBBER remains very steady, with a good demand all round for spot and near-at-hand. After spot touching 1s. 2d. on Monday, prices have fallen back to last week's parity. The partial settlement of the Reparation question led to a brisk demand from all quarters, and much dearer prices were expected; the fall in sterling in America was responsible for the drop in values which has subsequently followed. America continues to display an active interest and is buying large quantities of spot sheet at full prices. This is proved by the heavy deliveries of the past week, when 2,159 tons were delivered, against 1,085 tons landed, showing a decrease of 1,074 tons in the stocks. The demand for “off” grades is still good and full prices are being paid. Quotations (Wednesday, 5 p.m.):—No. 1 standard crepe and ribbed smoked sheet, spot and August, 1s. 1½d.; October-December, 1s. 1½d.; January-March, 1s. 2d. per lb. We deal with the position in our editorial columns.

SEEDS.—The seed market is quiet, but remains firm at the following prices: Spanish ANISE, 73s. per cwt., and Russian, 60s. to 65s. CANARY SEED is firm, with sellers of Mazagan at 30s. per cwt. on the spot and 29s. 6d. c.i.f., and Spanish of good quality is 35s. on the spot. Maltese CUMIN SEED is slightly easier at 100s. on the spot, sellers to arrive quoting 85s. c.i.f. Morocco is 97s. 6d. spot. New crop CORIANDER SEED is now 26s. per cwt. on the spot. DILL SEED is 20s. to 21s. Morocco FENUGREEK SEED, 23s., and Spanish 18s. 6d. per cwt. Manchurian HEMP SEED is unaltered at 17s. 6d. Morocco LINSEED is 24s. per cwt. on the spot, and English yellow MUSTARD SEED is 36s. to 38s. per cwt.

SENEGA.—A fair business has been done to arrive lately, and c.i.f. prices are now firmer at from 2s. 7d. to 2s. 7½d. per lb. c.i.f. for September-October shipment.

STARCH PRODUCTS.—Dutch maize starch powder (corn-flour) is quoted at 18s. 6d., and American at 19s. per cwt. net, on the spot. American maize starch crystals is 22s. 6d. net, and Dutch 23s. Best English rice starch crystals is 33s., and Continental 28s. per cwt. Dutch farina is 18s. 9d.; superior Dutch dextrin is 23s., and No. 2, 21s.; American canary dextrin is 22s. 3d., and white 22s. per cwt., ex store, London.

SUGAR.—Legitimate demand has developed at an increased rate for several weeks past, and quotations have steadily risen for all descriptions. Under decreased foreign competition and considerably reduced stocks at this end of both raw and refined sugar, British refiners raised their terms late last week and again on Wednesday this week, together to the extent of 1s. per cwt., making the average quotation for best cubes 44s. 9d. per cwt. American granulated sugar now stands at 25s. to 25s. 3d. compared with 23s. 6d. touched at one time last month. India bought Java sugar heavily for near and distant shipments, while substantial orders have been placed for shipment to South Russia due to the partial failure of the beet crop in Russia. Market prospects are certainly much better than they were a month ago, while the Cuban surplus, although still large, is more easily taken care of than had been anticipated. In the terminal market August delivery of white sugar touched early this week 24s. 4½d., and October-December 20s. 9d., but the close on Wednesday was easier, with August at about 24s. rather buyers.

TARAXACUM continues scarce on the spot with limited sales of English at about 140s. per cwt.

TURMERIC is steady, with fair sound Madras finger offering at 70s. to 72s. 6d., and Cochin split bulb at 22s. 6d. to 25s. per cwt.

WORMSEED.—The Eastern and Russian Trading Co., Ltd., in addition to santonin, have now been appointed by the Russian Government (U.S.S.R.) as the sole selling agents and consignees of genuine Russian wormseed, the prices of which have been fixed as follows:—500 kg., 18s. per kilo; 250 kg., 18s. 6d.; 100 kg., 19s.; 50 kg., 20s.; 25 kg., 21s.; 10 kg., 22s. Prices are net ex warehouse London. The wormseed is guaranteed to contain not less than 2 per cent. santonin.

Essential Oils

THE trade demand has been slow this week, owing to the absence of many principals on holiday. Cassia has advanced by 6d. per lb. on the spot. Japanese mint oil

has rapidly advanced and is now scarce on spot. American peppermint, too, is higher. First reports indicate a "thin" oil with a low menthol content owing to wet weather, but quality will no doubt improve later. Eucalyptus is firm with a rising tendency at the source. Sassafras is cheaper and juniper berry rather higher.

ANISE.—Spot is unaltered at 2s. 4d. per lb., and for shipment 2s. 3d. per lb. c.i.f. is quoted.

BERGAMOT is easier, spot offering at 17s. 6d. per lb. for 37 to 38 per cent.

CASSIA is dearer. A fair quantity has been cleared off the spot for export, and up to 8s. per lb. is now quoted for 80 to 85 per cent. c.a., and to arrive 7s. 6d. c.i.f. is asked.

CARAWAY.—Double-distilled new Dutch is offered at about 14s. per lb., and crude at about 13s.

CEDARWOOD continues very scarce at from 3s. to 3s. 3d. per lb. on the spot

CITRONELLA.—Ceylon on the spot in drums is quoted at 3s. 3d., and August-September shipment at 3s. 0½d. c.i.f. Java on the spot is offered at 5s. 4½d., and to arrive at 5s. 3d. c.i.f.

CLOVE varies in price from 7s. to 7s. 6d. per lb., according to seller.

EUCALYPTUS OIL remains firm with a rising tendency, the spot value being from about 2s. 1d. to 2s. 1½d. per lb. Very high quotations have been received from Australia, viz., 1s. 1½d. to 2s. 1½d. per lb. c.i.f., according to quantity.

GERANIUM.—Bourbon's firm at 36s. per lb.

JUNIPER BERRY is slightly higher at from 5s. 9d. to 6s. per lb.

LAVENDER.—French of 38 to 40 per cent. esters is offered at about 30s. per lb.

LEMON is quiet, with spot offering at from 2s. 11d. to 3s. 1d. per lb., and to arrive at 2s. 11d. to 3s. c.i.f.

MINT.—Since our last report prices of Japanese demethylised oil on the spot have advanced fully 1s. 6d. per lb., sales of Kobayashi-Suzuki taking place at from 14s. 6d. to 16s., sellers on Wednesday closing at the latter price. Spot stocks are in a few hands.

PEPPERMINT.—American oil continues strong, and for prompt shipment from New York various prices have been quoted, about 20s. 6d. c.i.f. being the closing value; on the spot, supplies are very limited, with 21s. quoted for good brands. Trial lots of the new distillate indicate a "thin" oil of poor menthol content owing to wet weather. Cables to hand at the close quote the higher rate of \$4.50 per lb.

SASSAFRAS is about 3d. per lb. cheaper, genuine American offering at 8s. 3d. per lb. on the spot.

Pharmaceutical Chemicals, etc.

THE tone of the spot market holds quite steady, although business is limited in volume. One or two advances, with bromides reaching very high figures, are notified. Bismuth salts are lower following a reduction of 2s. 6d. per lb. in the metal. The effect of the pending change in the amount of the Reparation levy on goods imported from Germany is not likely to be of material importance. Details are given in our editorial columns. It is understood that if the levy is advanced from 5 per cent. to 26 per cent. a guarantee will have previously been obtained from the German Government that they will repay their exporters that amount in cash, and not in bonds, as has been the case in the past. The change will possibly take place fairly early in September, but the actual date, it is said, will not be fixed until the Dawes Report has been ratified by the various Governments concerned.

ACETANILIDE keeps fairly steady on a dull market, with dealers offering spot goods at about 2s. 1d. to 2s. 2d. per lb.

AMIDOPYRIN shows no further drop in value as quoted at about 14s. per lb., with little doing.

ASPIRIN remains firm, with quite satisfactory business passing in the region of 3s. 3d. per lb. for good brands.

BARBITONE shows no further change after the recent reduction in spot value, with offers close up to 15s. per lb.

BENZALDEHYDE (.03) is steadier, but still quiet, with the average offer about 3s. 3d. per lb.

BENZOIC ACID (B.P.) is steady at last week's cheaper price of 3s. per lb.; ex toluol, 2s. 6d. per lb.

BENZONAPHTHOL remains idle, with the price nominal at about 5s. 6d. per lb.

BETANAPHTHOL, which declined last week, is now steady as quoted at about 3s. per lb. for resublimed.

BISMUTH SALTS.—As a result of the decline in metal the makers have reduced their prices from 1s. 3d. to 2s. 3d.

per lb., the list quotations being as follows:—Bismuth carbonate, 11s.; citrate, 10s. 9d.; nitrate cryst., 6s.; oxide, 12s. 4d.; salicylate B.P., 9s. 6d.; subchlor., 11s.; subgallate, 8s. 6d., and subnitrate B.P., 9s. 2d. per lb. net.

BROMIDES.—Now that practically all old spot stocks have been cleared, the quotations for fresh imports are at much higher figures, and are based on German prices. Ammonium in some quarters is as high as 1s. 4d. to 1s. 5d. per lb.; potassium, B.P. crystals and granular, 1s. per lb.; sodium, B.P. crystals and granular, about 1s. 3d. per lb.; these prices are for good quality. Some cheaper offers of doubtful quality may be on the market. The English makers now quote potash cryst. or gran. at 1s. 3d., sodium 1s. 4d., and ammon. at 1s. 5d. per lb.

CADMIUM SULPHIDE has been reduced to 6s. 6d. to 7s. per lb., the lower price being for 7-lb. lots.

CAFFEINE.—English makers' prices of caffeine and salts are as follows:—Pure cryst. B.P., 12s. 6d.; benzoate, 12s. 6d.; citrate, 8s. 3d.; hydrobromide, 17s. 6d.; salicylate, 13s. 6d.; sodio-benzoate, 12s. 6d.; sodio-salicylate, 11s. 6d.; sulphate, 13s. 6d.; and valerianate, 26s. 6d. per lb.

CALCIUM LACTATE is very steady at the recently advanced price of 1s. 9d. per lb., with a fair volume of business in progress.

CHLORAL HYDRATE.—The spot position for duty paid crystals shows a further slight advance, and most offers are moving up from 4s. 3d. to 4s. 6d. per lb.

CITRIC ACID.—The position on spot remains weak, and now that the buying season has practically finished, spot holders appear rather anxious to clear at best prices obtainable. The quoted price is about 1s. 5d. per lb., less 5 per cent., but sales at much lower rates have been put through for B.P. crystals.

CREOSOTE (B.P.) keeps at the old figure of 2s. 6d. per lb., with the market steady but quiet.

CREOSOTE CARBONATE seems of no interest, with prices nominal at about 6s. 3d. per lb.

EMETINE PREPARATIONS.—Emetine bismuth iodide has been reduced to 32s. per oz., and emetine per-iodide to 50s. per oz.

GUAIACOL CARBONATE is steadier, but still dull; most offers are at about 11s. 9d. per lb.

HEXANINE keeps steady at last week's prices of 3s. 7d. to 3s. 8d. per lb.; a fair inquiry has been dealt with.

HYDROQUINONE continues to be called for quite well, with dealers quoting from 4s. 3d. to 4s. 9d. per lb., according to quantity.

LACTIC ACID is unchanged on the week, with occasional inquiry; dealers' price for B.P. is about 2s. 8d. per lb.

METHYL SALICYLATE.—There is no change to report here; supplies and offers are free, while the demand is restricted. Prices for large lots might be down to 1s. 10d., while other offers are up to 1s. 11d. to 2s. per lb. for B.P. of English make.

METHYL SULPHONAL continues to be quoted by dealers at about 26s. per lb., with little interest shown.

MILK SUGAR.—German make, which has been selling at relatively low prices, has advanced, agents asking 82s. 6d. to 85s. as to quality. Dutch is quoted at 91s. per cwt.

PARAFORMALDEHYDE.—Some cheap offers are said to be on the market, while at the same time some recognised sources of supply in London are still asking up to 3s. 3d. per lb.

PARALDEHYDE is none too steady at last week's cheaper rate of 1s. 5d. per lb., and orders could, no doubt, be placed at a shade less.

PHENACETIN.—A moderate inquiry has been dealt with here, with dealers steady at 6s. to 6s. 3d. per lb., according to quantity.

PHENAZONE keeps very steady, with a fair business on the market; average price is close up to 7s. 6d. per lb.

PHENOLPHTHALEIN is a little easier this week, and most holders would probably shade their quoted rate of 6s. 3d. per lb. for good business.

POTASSIUM PERMANGANATE (B.P.).—Plenty of business continues, but competition is keen, and the quoted rate of 7½d. to 7½d. per lb. in drums, has been shaded.

POTASSIUM SULPHOGUAIACOLATE remains idle, with the price nominal at about 6s. per lb.

RESORCIN is steady, but not very active; quoted by dealers at from 5s. 2d. to 5s. 9d. per lb.

SACCHARIN (550).—Dealers offer at the old figures of 62s. 9d. to 65s. per lb., duty paid, according to quantity.

SALICYLIC ACID.—The position is as reported last week. Offers vary, and reflect the unsteady tone of the market; dealers quote from 1s. 6d. upwards per lb. for B.P.

SODIUM BENZOATE keeps up to last week's higher rate of 2s. 9d. per lb., with the market quiet.

SODIUM DIETHYLBARBITURATE is steadier, but the market is still quiet, with dealers' quotations close up to 16s. per lb.

SODIUM SALICYLATE (B.P.).—The demand during the past week has not been brisk; offers are free on spot, and are

again rather easier. B.P. crystals, about 2s. 2d. per lb.; and powder, about 2s. 1d. per lb.

STRYCHNINE.—Makers have reduced their prices of strychnine and salts; they quote B.P. crystals at 2s. 8d., powder 2s. 7d., bisulphate 2s. 1d., citrate 2s. 8d., hydrochloride P.B. 2s. 4d., nitrate 2s. 5d., and sulphate 2s. 3d. per oz.

SULPHONAL shows little life; dealers quote unchanged at about 15s. 6d. per lb.

TANNIC ACID.—B.P. *levis* is steady, on a quiet market, at about 2s. 11d. per lb.

TARTARIC ACID.—The spot position is certainly weak. Buying seems to have dropped off altogether, and the season is now ending; spot holders quote at about 1s. 1½d. per lb., less 5 per cent., but actual sales are said to have been made as low as 1s. per lb.

TERPIN HYDRATE shows no change on the week; dealers offer on spot at 1s. 9d. per lb.

THYMOL continues very scarce, and the price is nominal at 19s. 6d. per lb.

VANILLIN (100 per cent.) continues to be quoted from 24s. 6d. to 25s. per lb., and the tone is somewhat steadier.

Among the arrivals of chemicals which have paid Key Industry Duty are the following:—Acetylsalicylic acid, £310; butanol, £1,725; cocaine hydrochlor., £259; milk of magnesia, £912; potash permanganate, £193; sodium cacodylate, £359; sodium compounds o.c., £1,176; thymol, £536; chemicals, undescribed, £6,218.

Industrial Chemicals, etc.

London, August 20.

THE few movements in spot values are mostly in buyers' favour, but are not of much importance, and do not affect the general steadiness of the market. Business has been restricted in volume.

ACETIC ACID shows no further change, but business remains decidedly slow on spot: 80 per cent. technical, £43; 80 per cent. pure, £44 per ton, in barrels; 98 per cent. glacial, £29 per ton, in glass demijohns, ex wharf, London.

ACETONE.—The demand remains poor, but dealers' prices for B.G.S. quality keep fairly close to £100 per ton, in drums.

ALUM, on spot, is a shade cheaper, with parcels offering at about £9 10s. to £10 per ton for lump, in casks.

AMMONIA (ANHYDROUS) is steady, and with a small business; dealers' prices run from 1s. 5½d. to 1s. 6d. per lb., in loaned cylinders.

AMMONIUM CHLORIDE (grey galvanising quality) is firm, with a fair volume of business on the spot, at about £30 per ton.

ARSENIC.—The demand has remained very slow, and where attempts were made to push sales concessions have had to be made; current quotations for white Cornish, delivered London, stand at about £45 10s. to £46.

BARIUM CHLORIDE is offering on spot at about £14 to £14 5s. per ton for 98 to 100 per cent. prime white crystals; a few orders have been booked.

BLEACHING POWDER has not been in much request of late. Spot parcels are quoted at about £9 15s. per ton for 35/37 per cent. available chlorine; shipment prices are rather cheaper, on c.i.f. terms.

COPPER SULPHATE.—The dullness of export demand continues, and the market is featureless, but keeps steady on the basis of about £24 10s. to £25 per ton, f.o.b., for casks, less 5 per cent. discount; Continental makers are keen competitors in the export markets.

CREAM OF TARTAR has slowed down in demand, and dealers' prices as quoted, at about 84s. per cwt., less 2½ per cent. for one-ton lots, are not too steady.

EPSOM SALT has been moving off on spot at about £5 per ton for commercial quality, in bags.

FORMALDEHYDE (40 per cent. volume) remains dull, with no sign of a revival in demand. Dealers' quotations at about £52 per ton are not firm.

GLAUBER'S SALT is steady, although rather quiet. Commercial quality in single bags offering at about £3 12s. 6d. to £3 15s. per ton.

LEAD ACETATE on spot is steady at unchanged prices, and little doing; brown, about £44 10s.; white, about £45 10s. per ton.

LEAD PRODUCTS.—In some instances importers are asking slightly higher prices this week; business has been quiet throughout; red lead and litharge, £41 10s. per ton; white lead, dry, £43 10s.; ground, in oil, £45 10s. per ton, all c.i.f., London.

LITHOPONE continues to find good business with dealers' prices for 50 per cent. Continental red seal very steady at £22 per ton and upwards.

OXALIC ACID remains practically idle, and the price is weak as quoted at about 4d. per lb.

POTASH CAUSTIC keeps very steady, with the usual spot business in small lots passing; 83 to 92 per cent. solid, £30 per ton, in drums.

POTASSIUM CARBONATE is finding a good business, with dealers' prices steadily maintained; 90 to 92 per cent., £23; 96 to 98 per cent., £24 10s. per ton.

POTASSIUM CHLORATE is quoted on spot at about 2½d. per lb. for one-ton lots; the shipment price is about the same rate c.i.f.

POTASSIUM PERMANGANATE has been moving off well, but prices at which orders have been booked have generally been something under the quoted rate of 7d. per lb. for commercial quality, in drums.

POTASSIUM PRUSSIAN continues to be offered on spot by dealers, with British and foreign makes at about 7½d. to 7¼d. per lb. for yellow.

SAL AMMONIAC has been in good demand, and dealers have made a slight reduction in their prices; dog-tooth crystals, about £44; medium, £41 10s. to £42; fine white crystals, £26 10s. to £27 per ton.

SALTCAKE has been in some inquiry, with the price for export steady at £3 10s. per ton, f.o.b., in quantities.

SODIUM ACETATE is cheaper, with dealers quoting about £23 5s. per ton; market rather dull.

SODIUM CHLORATE on spot is available in small lots, at about 2½d. per lb., and the same rate quoted c.i.f. for shipment from the Continent.

SODIUM HYPOSULPHITE keeps quite steady, with dealers doing a fair business; pea crystals, in one-cwt. kegs, £14 to £14 5s. per ton; commercial quality, in casks, £9 10s. per ton.

SODIUM NITRITE in London is quoted steadily from £26 to £26 10s. per ton for 100 per cent.

SODIUM PRUSSIAN seems to meet a little call now and, again, with dealers offering British and foreign makes at about 4½d. per lb.

SODIUM SULPHIDE is seldom called for; dealers' prices are unchanged; 60/62 per cent. solid, £14; and broken, £15 per ton, in drums.

SULPHUR.—The market is quietly steady, with a fair inquiry. American or Sicilian crude is quoted £5 15s. to £6 per ton, delivered Liverpool, and terms for refined Sicilian range from £9 12s. 6d. to £9 15s. for flowers, and £7 15s. is wanted for roll, delivered, ex London warehouse. The home imports for July were 8,122 tons, making an aggregate of 69,308 tons for the seven months, this comparing with 62,185 tons and 25,430 tons respectively for the same period in 1923 and 1922.

COAL TAR PRODUCTS, ETC.—PYRIDINE is again showing an advance but other items show no change, with the market steady but dull. ANILINE OIL continues to be quoted at 7½d. to 9d. per lb., naked, ex works, by British makers. ANILINE SALT is unchanged as quoted by British makers at 7½d. to 8½d. per lb., naked, ex works. BETANAPHTHOL is steady but dull, as quoted by dealers at 1s. 1d. to 1s. 2d. per lb.

TOLUOL.—Pure, 1s. 8d. to 1s. 9d. per gallon; 90's, about 1s. 5½d. per gallon; British makers' and dealers' prices are level on the week. XYLOL.—Pure, 3s. 3d.; commercial, 2s. 3d. per gallon; this market shows but little life; quoted prices unchanged. CREOSOTE OIL is steadier after the recent reductions, but the demand is still slow and small; about 5½d. to 5¾d., ex works, and 6¼d. to 6½d. per gallon, f.o.b., in quantities. CARBOLIC ACID crystals remain dull, but there has been no further fall in quotations from that of about 6½d. per lb., f.o.b. in large bulk packing. CRESYLIC ACID is steady, and in limited demand; 97 to 99 per cent. is quoted at 2s. 1d. to 2s. 3d. per gallon. NAPHTHALENE shows no alteration on the week, with dealers quoting flakes at £16 10s. to £17 per ton. PYRIDINE is rather firmer again this week, with sellers at from 18s. to 18s. 6d. per gallon. HEXAMETHYLENE is seldom called for; dealers quote from 3s. 8d. to 3s. 9d. per gallon. Pure METHYL ALCOHOL is dull, with dealers' prices close up to £80 per ton, in drums, ex wharf, London. PITCH.—Inquiry for next season continues fairly good, and dealers are steady at about 57s. 6d. per ton, f.o.b. East Coast. Makers quote 55s. to 60s. per ton f.a.s. for next season.

Fixed Oils, etc.

THE total volume of business for this market has not been so good. Prices, however, keep up fairly well and a number of items maintain a firm tone. Linseed oil is unsteady and turpentine has been dull. ACID OILS keep steady with prices much about the same; coconut and palm kernel, 41s. 9d.; groundnut, 36s. 6d.; soya, 35s., all spot. CASTOR.—There has been no further advance, but the market stands very firm; pharmaceutical, 77s.; first pressings, 75s.; second pressings, 71s., all spot, in barrels in not less than one-ton lots. COCONUT.—The tone holds firm with prices showing little change; deodorised, on spot, 52s.; Ceylon, 47s. 6d. c.i.f.; Cochin, 58s. c.i.f. COTTON.—Last week's

higher prices are maintained with the market closing firm; deodorised, 54s.; common edible, 52s.; soapmaking, 48s.; crude, 45s., all spot. **GROUNDNUT.**—A further advance is recorded with the market firm; deodorised, spot, 57s.; crude Oriental, c.i.f., 52s. **LINSEED** (raw, naked).—On the week prices quoted show a slight advance, but at the close the market was irregular and not active. On spot, 42s. to 42s. 6d.; August, 41s. 3d. to 41s. 6d.; September-December, 40s. 9d. to 41s.; January-April, 39s. 9d. to 40s.; Hull, on spot, 41s. 9d.; August, 41s. 3d.; September-December, about 40s. 6d.; January-April, 39s. 6d. The total shipped last month amounted to 4,073 tons, making the total for the seven months 19,284 tons, compared with 24,973 tons in the same period last year. **PALM KERNEL.**—The tone here is much better with the market closing firm; deodorised, 50s.; crude, 45s., all spot. **PALM.**—A fairly steady tone governs the spot position, but business has been rather quieter; values are unchanged throughout. Lagos, 39s. 6d.; mediums, 39s. 6d.; softs, 39s. 6d.; hards, 40s. 6d.; bleached, 42s. 6d., all spot. **RAPE** holds firm with values unchanged; refined, 53s. 6d.; crude, 50s. 6d., all spot. **SOYA.**—Business has been quiet, but values are so far unchanged: deodorised, 52s.; crude, 44s. 6d., all spot. **TURPENTINE.**—The market fluctuated considerably with an irregular tendency, little good business being reported. On spot, 67s.; September-December, 66s. 9d.; January-April, 70s. 9d. per cwt. The recent setback which chiefly affected spot delivery was due to resales on the further considerable increase in the warehouse stocks, but it is believed that the pressure has now about subsided. The feeling seems to be fairly confident on American reports that current receipts on the other side continue to be well absorbed. Last week's deliveries were 1,759 barrels and the stocks were returned at 21,650 barrels, which together with the afloats and spirit in the course of landing made the London visible supply 35,050 barrels, compared with 19,981 barrels this time last year. **WOOD.**—Hankow in barrels remains quiet at 75s. per cwt. on the spot.

LUBRICATING, MINERAL, BURNING OILS, ETC.—A reduction in prices for benzol is expected. Lubricating oils remain dull and are rather unsteady on spot. Other products are about level on the week with the market generally quiet. **BENZOL.**—If the predicted reduction in petrol prices materialises it is probable that benzol prices will also move to lower levels. So far there is no change, but the market is weak and buyers are holding off. Crude 65's, 10½d. to 1s.; standard motor, about 1s. 6d.; pure, 1s. 8½d. to 1s. 10d. per gallon, ex works, in tank wagons. F.o.b. prices, including free drums, about 6d. per gallon more. **FUEL OIL.**—Last week's cheaper prices are maintained on a steady but quiet market; 950 gravity, £4 2s. 6d.; 890 gravity, £5 2s. 6d. per ton, ex tank. **PARAFFIN WAX AND SCALE.**—Wax is about level but business is quiet. Quoted from 3½d. to 5d. per lb., according to melting point, in bags. Scale is rather firmer with the c.i.f. U.K. port offer at 28s. 6d. per cwt. **SOLVENT NAPHTHAS** keep steady but business is not so active: 90 to 160, about 1s. 3d.; heavy 90 to 190, about 1s. 2d. per gallon. **PARAFFIN OILS.**—No change but market firm; American standard white, 1s. 1d.; water white, 1s. 2d. per gallon, barrels free. Russian prime white kerosene, 6½d. to 7d. ex tank; 7½d. buyers' barrels filled free, and 10½d. per gallon, barrels free, ex wharf, London. **PETROLEUM JELLIES** are steady but quiet: white to snow white, £65 to £68; amber and yellow, about £25 to £28; red vet, about £22; dark stiff green, about £19 per ton, barrels free, ex wharf, London. **WHITE OILS.**—The market is level on the week but business is dull; special No. 1, £40; No. 1, £35; No. 3 half-white, £27; No. 4 half-white, £19 per ton, drums and barrels free, ex wharf, London. **LUBRICATING OILS.**—Refiners' prices are reported slightly cheaper again, otherwise there is no change and spot quotations are so far maintained, although the market is quiet and not at all firm; pales, £13 to £26; reds, £14 10s. to £27; dark cylinders, £15 10s. to £35; filtered cylinders, £22 15s. to £36 per ton, less 2½ per cent, ex wharf, London. **SOLUBLE OIL** steady, £29 per ton nett. No. 1 **RUSSIAN OIL** has cheapened to about £18 15s. per ton, less 2½ per cent., barrels free, ex wharf, London.

ANIMAL AND FISH OILS, TALLOW, ETC.—Australian tallows are dearer again with the market firm. South American products also show a good advance; fish oils are steady but not very active. **BONE GREASE.**—Higher prices are asked with the market closing firm; pale water, 39s.; brown water, 37s. 6d.; benzine, 36s. 6d., all spot. **NEAT'S FOOT OIL** is a shade cheaper as quoted for shipment at about 4s. 8d. per gallon, c.i.f. **LARD OILS.**—There is no change in this market. American E.W.S. 1 per cent., 72s.; English pale oil about 62s. per cwt., London. **FISH OILS** keep fairly steady and business has been a little better. Coast cod, 31s. 6d.; brown whale, 30s.; dark whale, 28s., all spot. Japanese, in cases, 29s., c.i.f. **TALLOW** (Australian).—The

last auction was very satisfactory, and a further advance of about 1s. for most grades was recorded. The spot position keeps firm with business good; on spot, fine mutton, 48s.; sweet beef, 47s.; good mixed, 46s.; inferiors, 41s. **SOUTH AMERICAN TALLOW.**—Shipment prices are unchanged; market steady; first beefs, 45s.; second beefs, 43s. 6d., all c.i.f. **OLEO OIL** for shipment is quoted dearer at 88s. c.i.f. and is firm. **OLEO STEARIN** is not quoted at the moment. **PREMIER JUS.**—Prices for shipment have advanced considerably on a firm market; South American extra beef, 55s.; Australian mutton, 50s.; South American mutton, 52s., all c.i.f.

Exports of Lac from Burma

ACCORDING to the report on the Maritime Trade and Customs Administration of Burma for the year 1923-24, exports of lac to India rose from 53,227 cwt. valued at Rs. 57.81 lakhs to 65,322 cwt. valued at Rs. 56.43 lakhs. These consisted chiefly of sticklac and were shipped almost exclusively to Calcutta. The overland arrivals of sticklac from Western China and Shan States were 5,742 cwt. and 59,063 cwt., against 3,514 cwt. and 48,681 cwt. respectively, in 1922-23.

Spanish Mercury Production

The total production from the Almaden mines during 1923 (according to figures in a department of Overseas Trade Report) was 32,923 bottles of 34,507 kilos each, against an output of 38,083 bottles in 1922. The stock in hand at the end of 1922 was 28,857 bottles, and sales during the year amounted to 54,815, leaving the small stock of 6,967 bottles at the end of the year. The above figures are interesting, as the new Board of Administration suppressed the publication of monthly statistics of production and sales from February 1, 1924. The system of working the mines is to be thoroughly overhauled, and it is hoped that the present year will show a considerable improvement.

Japanese Insect Flowers

INSECT flowers are produced in Japan in the Wakayama and Hiroshima prefectures, by small farmers, who dry the flowers and pack them in straw bags. The growers, however, have no knowledge of export business procedure, or of the English language, and consequently it is impossible to deal with them direct. According to a report by the United States Consul at Kobe, the dried flowers are purchased from the farmers by jobbers, who, in turn, sell to the exporters. These exporters inspect, re-dry, and re-pack the flowers into hard-pressed bales suitable for export, and are the only concerns having the facilities for conducting foreign trade. The price of insect flowers in Japan is subject to a considerable amount of manipulation. The growers, jobbers, and exporters combine into guilds, whose only purpose is to maintain prices, and, owing to the short supply of pyrethrum flowers everywhere, they have been fairly successful in their endeavours. The following table gives the quantity and value of exports from Japan in 1920-2:—

	lb.	Yen.
1920	2,926,596	2,553,695
1921	1,127,687	551,549
1922	3,983,083	3,357,188

Cascara Sagrada Cultivation

ONE of the activities of the field men of the Dominion forest service during the present season (says the "Daily Province" of New Westminster, British Columbia) is to collect a quantity of the seed of the cascara tree. Each forest ranger has been directed by Crown Timber Agent E. Walmsley, acting on instructions from Ottawa, to secure as much seed as possible in his district. The purpose of the Government is to make experiments in growing and cultivating the trees. The seed will be planted in various parts of the Dominion, and some will be sent to England, where it is the intention of the Imperial forest service to carry out a series of experiments. Each year the bark of the cascara tree is becoming more valuable, and there are not many parts of the Continent where the tree is indigenous. Mr. Walmsley has taken steps to check wholesale destruction of the cascara trees on all lands controlled by the Dominion. It has been frequently pointed out that the steady collection of the bark, carried on by numerous Japanese in different parts of the province, threatens extinction to the cascara. It is not generally known that it is an offence to destroy trees on Government property by stripping them of the bark. In all the logging camps on lands under Dominion jurisdiction in the coast district the foreman in charge has been instructed to check all activities of Japanese or others in stripping cascara trees of their bark. There is at present no legal method by which the bark may be collected from trees on Crown lands. Restrictions do not, of course, apply to lands owned privately.



Letters for this section should be written on one side of the paper only. Correspondents may adopt an assumed name for purposes of publication, but must in all cases furnish their real name and address to the Editor.

The Profit Squeeze—and Other Aspects

SIR,—The "patent" problem, like the poor, seems to be ever with us; and, judging from the correspondence appearing in your columns, the true position of the activities of the Proprietary Articles Trade Association are not fully understood or appreciated by the Craft. Having been actively engaged in the distribution of "patents" for over fifty years, I have some slight knowledge and experience of the conditions. First of all, I may point out for the benefit of the younger members of the retail trade that twenty-five to thirty years ago, before the inception of the P.A.T.A., the "patent" trade was in a parlous condition. It occupied at that time the same position in the chemist's pharmacy as that popularly supposed to be taken by sugar in the grocer's shop, to be sold at practically cost price as a kind of bait. The thirteen-penny-halfpenny size was being sold at prices varying from 9d. to 10½d., and only in a very few select pharmacies was the face value obtained. The secretary of the P.A.T.A., realising the depths to which the patent-medicine business had fallen, gallantly entered the field and organised in a modest way the P.A.T.A. I myself was present in Liverpool at a meeting to inaugurate his campaign, and frankly thought his scheme was a dream impossible to be realised. It seemed to me at that time a hopeless task to endeavour to get the manufacturers, wholesalers and retailers to work together to improve the condition of the proprietary trade; and only Sir William Glyn-Jones himself knows what an uphill fight it was. Under the auspices of the P.A.T.A., conditions gradually improved; the retailer's scale of profit was increased, and senseless price-cutting practically came to an end. One illogical condition, however, still remained, viz., proprietary articles, although sold at a fairly uniform price, were not sold at face value. To remedy this state of things, the "Face Value" campaign was inaugurated, in which I had the privilege of taking some part, with the result that practically all proprietaries are now sold at face value. This campaign embodied within its objective the hope that manufacturers might so arrange their prices that a uniform discount of 12½ per cent. should be allowed the wholesalers and 25 per cent. the retailers; and from my own experience on the council of the P.A.T.A. I can assure retailers that immense efforts have been made, and are still being made, to bring this desirable condition of things about—it is really surprising the improvement in this direction during the last five years, and I am not without hope that eventually these terms will become universal. I am quite aware that some retailers have the impression that 12½ per cent. is too much for the wholesaler; I should like to say, however, that the outward carriage on the average absorbs between 4 and 5 per cent.—the remaining 7½ or 8½ per cent. is by no means excessive for the stocking, handling, packing, invoicing, etc., of proprietaries. Possibly a shade less margin might be worked upon were it not for the fluctuating demands; as it is, the stock to be carried is enormous and the capital involved in carrying such stock great. Some lines are only asked for occasionally, but for the convenience of the retailers all have to be stocked. I should like to assure the retail trade, from inside knowledge, that their interests are being watched and safeguarded in every possible way by the P.A.T.A.; and I am convinced that chemists in business prior to 1900 will agree with me that the condition of the patent medicine trade to-day is widely different and immensely better than it was at that time, entirely owing to the activities of the P.A.T.A. My hope is that eventually the present complicated and varied terms of sale will be simplified by every manufacturer arranging prices so as to allow the wholesaler 12½ per cent. and the retailer 25 per cent.; and I can

assure the manufacturers that by so doing they will, in my opinion, secure the goodwill of both the wholesale and the retail (an important asset). Before concluding I should like to say that Sir William Glyn-Jones has no knowledge that I am writing; but I can assure every section of the trade, manufacturers, wholesale and retail, that Sir William, as secretary of the P.A.T.A., is straining every nerve to balance the three interests evenly, and, in my opinion, is succeeding in so doing.—Faithfully yours,

W. H. SAUNDERS.

34, Hanover Street, Liverpool.

SIR,—In a recent letter which appeared in your columns the writer referred to the policy of the Proprietary Articles Trade Association in criticising non-subscribers. There seems to be three elements in the P.A.T.A., the strongest, the strong, and the nonentities. Evidence of the strongest was particularly flagrant a few years ago, when one element asserted its own interests at the expense of the other two in enforcing and maintaining the surcharge—subsequently modified in name. Its object, or perhaps only one of them, is the maintenance of uniform prices; but do all three elements interpret it in the same way? A question of greatest importance is, who is entitled to wholesale terms? Is it anyone who sends an order to a wholesale house, be it grocer, hairdresser, or a person acting for a party of fellow-employees in a concern perhaps only connected with the drug trade in the way that all trades are interdependent? Or should it be only recognised retailers of drugs, i.e., those who bear the expense of keeping open shop for the purpose? A manufacturer or a wholesaler who supplies an employee, a friend, or a Church bazaar, at a special price, does so not out of his own munificence, but at the expense of some retailer; and it has happened that the employee has passed the goods to a friend who has again passed them on, and the distant consumer has remarked to the effect, "We get the large size for only a little more than the chemist charges for the small one"! Yet the article is on the P.A.T.A., and the considerable difference in price suggests that it was the makers who supplied it. One of London's biggest stores now allows no price concessions to its employees, and I am inclined to think that this is the only equitable course. It is disquieting to find that some of them use the privilege to pay partly for their board and lodging, and that a representative can take your order and then undersell you with the same goods to his friends in your district. The firms who have their own system of price maintenance seem to rely on their merit and the goodwill they inspire to protect them from unfair substitution. I have no tolerance for the man who copies; but if he can give a materially better article, or if the profit offered is insulting to his craft, or if he already has a similar article of established merit, then he should have a free hand. "Substitution" in the hands of an unprincipled spy may cause no end of injury as well as restrict trade. This is not written in a destructive spirit, but by one who feels that there is one law for the rich and another for the poor, and that in the interest of the balance of power he became and should continue an

APOSTATE (16/8).

SIR,—No human scheme is perfect; the "stop" list is proof of that. However, it is not my intention to begrudge the Association whatever credit is due, but I still repeat that some form of readjustment is necessary. Mr. Birks states that he is not one to court publicity; but I put it to him, would it not be better if the officials courted a little more limelight, not for self-advertisement, but to show the trade that matters are not being allowed to stand still? This would correct misleading statements, as he puts it, and also quiet the suspicions of those who do meet with offenders. Meetings are held, and resolutions passed, and that is the last that is heard of them. It is a mistake to think "of what use is a correspondence column, for nobody pays any attention to it?" Mr. Birks is amazed at my remarks about the "spice of business life." I take it for granted that he rightly understands my letter of August 2, in which I asked: "If a retailer must hand over a proprietary article without any attempt to sell anything in its place, what con-

stitutes fair substitution and, incidentally, good competition?" Surely Mr. Birks cannot see any dishonour in that! At the recent British Pharmaceutical Conference Mr. Mallinson correctly stated that they all had experience of preparations they had been ashamed to sell; I must add, "and some of them quoted in the P.A.T.A. list." Perhaps Mr. Birks would agree to substitution in this case. The inducement for a manufacturer to enter his article on the list is that it is one of his principal selling points, for such will always receive attention. I readily admit that in favour of the P.A.T.A. While the honour of the trade is under discussion, may I ask why the Association accept the preparations Mr. Mallinson had in mind? One important point that "Retusella" (*C. & D.*, August 9, p. 244) has overlooked is that, although the proprietors might appear to be the sole arbiters of the Proprietary Articles Trade Association (if confined solely to them), it does not follow that the retailer would have no say in the matter. I will, however, allow him this much, that there are a few proprietors who "look upon co-operation with contempt," but a minute's thought will show that these are greatly in the minority. The market is already overcrowded, and well the proprietors know it. "Retusella" appears to put emphasis upon the lack of co-operation; but I would ask how many sales letters he relegates to the W.P.B. without a little study of the contents. Those reliable articles that are advertised show a good, or at least a reasonable, profit; advertising matter is supplied if trouble is taken to ask for it; these two points prove the desire for co-operation. Another point that "Retusella" must bear in mind is that in this country direct advertising has proved a decided failure.—Faithfully yours,

C. DENBY DAY (19/8).

Sir Walter Raleigh's Cordial

SIR,—Many of your readers will, I imagine, have been quite interested in your article on "Sir Walter Raleigh's Cordial," and I wonder whether they might not be equally interested to see what the Hon. Robert Boyle has to say about this preparation, in his "Some Considerations touching the Usefulness of Experimental Philosophy" of 1664, "where mention is made of the Cure of one, concluded to have a Gangrene, by an inward Medicine."

"The Cure mention'd in this place, having been perform'd by that Medicine, which from the Name of that Great Commander as well as Virtuoso, who was the Author of it, passes under the Name of Sr. Walter Rawleighs Cordial, and this being but one of the many remarkable (and some of them stupendious) Cures which have been wrought by it from time to time, especially of late that it hath been more us'd, I am induced to annex here the yet unpublish'd Receipt, partly, because there are divers Receipts that are each pretending to be the true, magnify'd by their several Possessors; And I had the liberty of looking it out in a Receipt-Book, preserved by the Authors Son; and partly because, though I will not affirm, that a skilfuller and more promising Composition of the same Ingredients could not have been devised; Yet the following Receipt has been abundantly recommended by Experience. And I remember that but a while since, a Person of Note having sent to me, to desire a taking of this Cordial for a certain Knight, who after all that skilful Physitians could do, had long lain a dying; I the other day chanc'd to meet this Knight at White-Hall, well, lively, and with a Face whose Ruddy-ness argued a perfect Recovery, and yet he is not very farre from seventy Years of Age, and had, before he grew so ill, long conflicted with a tedious Ague, and fever, which had reduc'd him to that Extremity, when the Cordial was bought, that, as himself told me, he neither was sensible when they gave it him, nor had known what he did, or what was done unto him, during the space of several days before."

Then follows the recipe almost exactly as you have it, except for some differences of spelling in the drug names and in the directions for use. After the budget of weekly advertisements which fill our pharmaceutical periodicals, written in the style of "superlative salesmanship," it is not without humour to read that, even in 1664, there were "divers receipts each pretending to be the true, magnify'd by their several possessors."

Yours faithfully,

A. J. JONES.

Liverpool.

Scholarships in Pharmacy

SIR,—I write (a) to congratulate you on the best Educational Number I think you have yet issued; (b) I think it hardly fair not awarding Irish Fairchild prize on the ground of there being no competition. Promoters should not have asked the one Irish candidate to sit if lack of competition prevented a prize. I hope I am not writing because the only candidate from Ireland came from my pharmacy, but rather to stimulate other pharmacists, in future years, to send in competitors. I blame principals for not putting the Fairchild scholarship before potential assistants.

Yours, etc.,

Samuel Hogg, Ph.C.

Belfast.

SIR,—Mr. Skinner's interesting article (*C. & D.*, August 16, p. 255) shows that there has been to some extent a revival in the competition for pharmaceutical scholarships, but most of us will agree with him that the number of entrants is not so large as it might be. In the days when I was apprenticed there was little encouragement to enter for a scholarship, the time available for study being non-existent; and in consequence I and my contemporary apprentices looked on scholarships as something far out of the reach of the ordinary boy, and never thought of entering for one. I quite agree with Mr. Skinner that there seems to be a lack of primary training—or rather, considering the amount we pay for primary education yearly, a misdirection of training—which results in a want of that faculty termed in some localities "nous." Mr. Skinner also notes that a few candidates divide the honours between them and the rest are a long way behind; I think this is always so. Also, the more promising a student, the more he is assisted by demonstrators and teachers, who see in him a candidate likely to do them credit; whereas the dull youth is a nuisance to explain things to, and may possibly secure a pass and that is all. Taken as a profession, or as a trade, does pharmacy attract the same standard of boy as other callings? If a youth enters for examinations such as those of the Customs and Excise, or one of the big professions, he has no harder papers and no longer to train than under our present curriculum: but what does he get when he has succeeded? It is no wonder that pharmacy does not attract the more intelligent of our youths.—Yours truly,

HEXAMITE (18/8).

The Conference and Army Service

SIR,—Your correspondent, who signs himself "A Looker-on" (*C. & D.*, August 9, p. 243), assumes that, because the British Army authorities decree that a pharmaceutical chemist is unworthy of a commission, it would be futile to agitate further for the recognition, which I maintain to be a very just claim. The British Army—a very small body in comparison to the large standing armies of Europe—must not be taken as the ideal opinion in deciding against the necessity of maintaining a properly organised pharmaceutical service within their ranks. The heads of the Continental armies, without exception, think otherwise, and seem to have paid special attention to the development of this branch of the service, a striking tribute in particular having been paid to its activities by the French Government during the great war, and a further mark of its appreciation being shown by granting in peace time the rank of officer to the heads of this department. Your correspondent's contention that "no use could be found for a Ph.C. in commissioned rank" is easily rebutted by the conditions obtaining in other countries already referred to. I still am, and always have been, convinced that there is need in the Army for properly qualified dispensers, as it is obviously as much illegal to have unqualified men attending to the requirements of the soldier as it is to have a person in the same capacity catering for people in civil life.—Yours, etc.,

REFORM (11/8).

SIR,—"A Looker-on," in his admiration for the Army pharmaceutical service, overlooks two important if rather sordid facts which were brought to light during the recent war—the danger to the soldier under treatment and the waste of public money, and lives and money were

the two principal factors in the successful prosecution of the war. From this point of view alone the employment of qualified pharmacists in the Army should be a public policy; it has been adopted with success in foreign armies, and should be in our own. The question of commissioned rank is not raised merely from a personal point of view, but to give the pharmacist the standing necessary to carry out his work with efficiency.

Faithfully yours,

MILIFAR (12/8).

"Methylated Jeremiahs"

SIR,—My attention has been directed many times lately to instances of chemists, holding official positions such as that of magistrate, using every available opportunity to bewail the terrible evils of methylated-spirit drinking, medicated-wine drinking, and so forth, obtained from chemists. Do these gentlemen ever pause to realise the grave disservice they are doing to the craft to which they belong by these perpetual whinings? They are gradually educating the public to look upon the chemist as a kind of criminal who batters upon supplying these degenerates with their illicit requirements and considerably enriches himself thereby. To the activities of such gentry in the past we largely owe the Dangerous Drugs Act, with its fanatical Regulations, under which the whole of the drug trade is groaning to-day. I suppose they will never rest content until the trade is shackled with a "Dangerous Spirit Act" and a set of Regulations on a par with those of the D.D.A. I only hope they will be the first to be caught and punished under these new Regulations, if such are brought about. The so-called evils of methylated-spirit drinking, medicated-wine drinking, cocaine and morphine taking, etc., are insignificant compared with the evils of whisky, brandy, rum and spirit drinking generally. And yet these are never heard of, because they are supported by strong vested interests. . . . The Government in the House of Commons showed how little they trouble themselves about the methylated-spirit drinker when they said, in effect, "It is not the fact that people drink methylated spirit that worries us, it is because by so doing they defraud the revenue!" If this should meet the eye of any of our drug-trade "methylated Jeremiahs," let them cease blackening their fellow-craftsmen, and realise that if these people who are found in a fuddled state in Liverpool, Salford and such places were in this condition owing to imbibing brandy, whisky, or any intoxicant which had paid duty, nothing more would ever be heard of the matter.—Yours truly,

J. BAILEY, M.P.S.

Ashton-under-Lyne.

Dispensing Difficulties and Notes

A Gelatinous Precipitate

SIR,—Could you inform me of the best way of making the following?—

Sod. phosphatis	...	...	3vj.
Quin. sulph.	...	...	gr. xx.
Ac. hydrochlor. dil.	...	...	℥℥℥.
Tr. ferri perchlor.	...	...	3j.
Aq. chlorof.	...	ad	3vj.

Yours faithfully,

J. D. D. (3/7).

[A very effective way to compound this mixture is to place the sodium phosphate and quinine sulphate in a mortar, rub down together, then add the dilute hydrochloric acid and tincture of iron perchloride and mix well, afterwards adding the chloroform water in small portions and continuing trituration till it has all been employed. In this way a fine diffusible precipitate is obtained. When the mixture is prepared in the way which you describe the precipitate scatters in weird clouds throughout the mixture, and when shaken up it has a flaky appearance. It consists of phosphate of quinine and iron.]

An Elegant Mixture

SIR,—Can you tell us what happens in the following mixture?

Ferri et am. cit.	...	...	...	3iv.
Potas. iodid.	...	...	...	3j.
Tr. nucis vom.	...	...	...	3j.
Spt. am. arom.	...	...	...	3ij.
Chloroformi	...	...	...	3ss.
Mucil. tragac.	...	...	...	3v.
Aq.	...	...	ad	3.vv.

Mixed in one order, a dense brown precipitate forms.

Yours truly,

PUZZLED (15/7).

[A simple and effective way of compounding this prescription is to mix all the liquids together and dissolve in them the iron and ammonium citrate and the potassium iodide previously triturated together. Solution can be effected either by shaking in a bottle or by rubbing down in a mortar. The mixture when so prepared is homogeneous and of a rich reddish brown colour—quite an elegant product. We have not been able to obtain the precipitate which you describe. Distilled water must be used.]

A Strychnine and Bromide Mixture

SIR,—In view of statements in reference books, please advise if it is safe to dispense the following prescription:—

Pot. brom.	...	...	...	3iij.
Liq. strych.	...	...	...	3j.
Tr. digital.	...	...	...	3ij.
Inf. gent. co. conc.	...	...	...	3ss.
Aq. chlorof.	...	...	ad	3vj.

The prescriber, on being consulted, confirmed his quantities.

Yours truly,

OPTICS (28/7).

[You may with safety continue to dispense the mixture. Even if all the strychnine is converted into hydrobromide, there is more than sufficient liquid to retain it in solution. The incompatibility between bromides and strychnine salts need only be considered when they occur in concentrated mixtures. It is customary to attach a "shake" label to the bottle, even when there is a good supply of liquid. The prescriber probably had ordered the mixture many times without any dangerous results, hence his confidence.]

Legal Queries

A. A. (28/7).—The wording of the label for sunburn cream which you submit does not disclose any ground of liability to medicine-stamp duty.

T. L. B. (12/8).—The label for the anti-croup mixture renders the preparation to which it is attached liable to medicine stamp duty. "Bronchial mixture" is not a dutiable title.

P. E. W. (5/8).—Appliances of a mechanical and non-medical nature are not dutiable under the Medicine Stamp Acts. The relief or removal of an ailment is just as much a ground for liability to duty as preventing or curing. The rates of duty are given in the *C. & D. Diary*, 1924, p. 239.

T. G. H. (14/7) has had a prescription written on an Insurance prescription form presented to him for dispensing by a patient who is a commercial traveller. The patient uses the prescription as a "private" one, handing it to a chemist in any town in which he happens to be, and paying for the medicine supplied. The form bore the prescription stamps of half a dozen different chemists. Is it correct for a chemist to make a charge for dispensing an Insurance prescription in these circumstances? [The Third Schedule of the Medical Benefit Regulations (Section 4, Clause 2) provides that chemists who contract with Insurance Committees are required to supply with reasonable promptness to any person who presents an order for drugs and appliances written on a prescription-form provided by the Insurance Committee for the purpose, and signed by any medical practitioner on the list of the Committee, the drugs or appliances so ordered; and Section 9 of the same Schedule provides that the person shall be supplied free of charge. It appears, therefore, that the

chemist contracts with a particular Insurance Committee. It is clear that any insured person resident in the area of a particular Insurance Committee presenting to any chemist under contract with that Committee an official prescription form issued by that Insurance Committee, and signed by a practitioner on that Committee's medical list, is entitled to have that prescription dispensed for him free of charge; and any chemist who charges that insured person any sum for dispensing the prescription is acting quite irregularly and contrary to his contract. The Regulations, however, do not appear to be so definite in the case of an insured person who travels outside the area of his own Insurance Committee, if he takes with him the prescription-form issued by his own Insurance Committee and signed by his own panel doctor. In this case the chemist to whom he presents the order is not under contract with the Insurance Committee who provided the form, and the form itself is not signed by a practitioner on the medical list of the Insurance Committee with whom the chemist is under contract. On the contrary, it is certain that the chemist would not get paid by the Committee for such a prescription if he dispensed it. Chemists should, of course, make it a general rule not to charge for dispensing any Insurance prescription. At the same time, it is conceivable that an insured person who is compelled to be absent frequently from his own Insurance area may, of his own free will, elect to forgo the benefit of free medicine to which he is entitled. He may prefer to pay every time he requires a particular medicine, retaining for this purpose the prescription-form given him by his panel practitioner and presenting this as a private prescription to any chemist in the town in which he happens to be. There appears to be no reason why he should not do this, nor why the chemist to whom the form is presented should not, in these special circumstances make a charge for the medicine. The only alternative for the insured person is to consult any panel practitioner of his choice in the town in which he happens to be, and obtain from him a prescription upon each occasion for the medicine he requires. It can readily be understood that a person who has found that a particular prescription will suit his case would rather keep that prescription by him, and pay for its compounding whenever he might require it, than take his chance of receiving the same prescription from perhaps a dozen different practitioners in a dozen different towns.]

Miscellaneous Inquiries

When samples are sent particulars should be supplied to us as to their origin, what they are, what they are used for and how. We do not undertake to analyse and report upon proprietary articles nor to publish supposed formulas for them.

J. B. H. (23/5).—POMADE FOR HAIR.—The sample of this pomade "for restoring hair to its natural colour" was very small—only a few grains. It contains a lead salt, probably the acetate, and sulphur (apparently sublimed) as its chief constituents. The basis appears to be animal, probably lard chiefly; it contains no paraffin basis.

L. E. (Africa) (13/6).—WARTS ON DOG'S MOUTH.—If possible, get the large warts removed with a chain ecraseur. The small ones should be dressed daily with a strong solution of argent. nit. Give small doses of potas. iodid. internally.

M. G. (Egypt) (17/7).—PARASITE ON DOG.—Wash the dog in a solution of Sanitas twice a week. Bed with pitch-pine sawdust (if not procurable any kind of sawdust mixed with Sanitas powder) or shavings. Keep the animal's bowels regular, and rub the following well into the coat; wash off the next day, and repeat in three or four days if necessary:—

I		II	
Spt. camphoræ	... 5j.	Ol. delphin. staphisag.	5ij.
Ol. tereb.	... 5iv.	Adipis	... ad 5j.
Ol. cetacei	... 5iv.	Sig.	Apply a little daily.

D. S. (21/7).—Without knowing in what connection the word "flux" is used we cannot give an exact reply to your inquiry.

A. W. T. (24/7).—ACCUMULATOR ACID is sulphuric acid of sp. gr. 1.225 containing 30.48 per cent. by weight of sulphuric acid. It is generally made by adding one part by measure of pure sulphuric acid to four parts of distilled water, but should be allowed to become cold before placing in the accumulator. The same strength of acid is used in all accumulators.

J. R. W. (5/8).—FACE CREAM PERFUME.—The following are two perfumes for face cream which you will find distinctive:—

A		B	
Linalol	... 10 grams	Heliotropin	... 5 grams
Vanillin	... 0.1 gram	Musk (artificial)	0.25 gram
Musk (artificial)	0.2 gram	White heliotrope	
Oil of orange		extract	... 20 grams
flower (absolute)	... 0.5 gram	Oil of heliotrope	
(absolute)	... 0.5 gram	(absolute)	... 0.5 gram
Oil of jasmin		Glycerin	... 10 grams
(absolute)	... 0.5 gram		
Ionone (pure)	... 0.25 gram		

J. H. (18/8).—DISPENSING CHARGE.—The following is the retail price of the prescription according to the C. & D. costing system:—

	d.
Sodii salicyl. nat.	... gr.Lxxx. 13.5
Potas. iodid.	... gr.xxiv. 2.5
Spt. ammon. arom.	... 3ss 4.0
Tr. nucis vom.	... m.Lxxx. 1.5
Tr. aurant.	... 3ss 16.0
Aq. chlorof.	... ad 3viij. 5.5
Container	... 2.5
Dispensing oncost	... 8.0
Charge, 4s. 6d.	53.5

S. R. (19/8).—See reply to "A. W. T." Twaddell's hydrometer is so graduated that the reading or number of degrees, multiplied by 5 and added to 1000, gives the specific gravity with reference to water at 1000. Thus 10° Twaddell represents s.g. 1050.

Retrospect of Fifty Years Ago

Reprinted from

"The Chemist and Druggist," August 15, 1874

An Aurist's Autobiography

In his "Autobiographical Recollections of the Medical Professions," Mr. J. F. Clarke has given an amusing account of a bold quack of the early part of this century. Sixty years ago, he tells us, a young man named Curtis, who had been a dispenser in the Navy, having married a lady of some means, came to London, took a house in Soho Square, and commenced practice as an aurist. Of aural surgery he had not even the little knowledge which always makes its possessor dangerous, and of the anatomy of the ear he was utterly ignorant. But this was no obstacle to Mr. Curtis. His first move was to publish and extensively advertise pamphlets on diseases of the ear. "But," says Mr. Clarke, "he soon discovered, as many others of his class have done at the present day, that to found a 'Hospital' or 'Dispensary' for the reception of persons afflicted with disease was the surest mode of obtaining notoriety and wealth. He then founded the institution now known as the 'Royal Dispensary for Diseases of the Ear.' His estimate of the value of this mode of advertising his claims to the support of the public proved to be correct. Crowds of poor people, and rich ones, too, flocked to the Dispensary in Dean Street for advice and relief. The fame of the 'great aurist' soon became not only metropolitan, but national." . . . One day Curtis was summoned to Whitehall Gardens to attend Mr. Peel, who was then Secretary of State for War. On his arrival he found his patient in the drawing-room, with the Duke of Wellington, Sir Astley Cooper, and Sir Henry Hallford. He immediately commenced to syringe the ear with his gigantic syringe. Whilst so engaged, Mr. Peel made some inquiries as to the nature of the complaint, its situation, and the *modus operandi* of the remedy. Curtis was in a difficult position, but he was equal to the occasion. "I saw," he told Mr. Clarke afterwards, "that I must put a stop to this inconvenient questioning; so, putting the point of the syringe to the side of the passage, I gave him a dig, and said: 'Mr. Peel, if you don't hold your tongue I shall certainly do you a mischief.' He was as dumb as an oyster afterwards."



[Commenced C. & D., July 5, 1924]

Alcohol Conversion Tables.—Proof spirit is the basis upon which spirit duty is assessed. The following is information thereon which has been published by the Board of Inland Revenue:—

“Proof spirit” is defined by law to be such spirit as at the temperature of 51° F. (10.6° C.) shall weigh 12-13ths of an equal measure of distilled water. Taking water at 51° F. as unity, the sp. gr. of “proof spirit” at 51° F. is 0.92308. When such spirit is raised to the more usual temperature of 60° F., the sp. gr. is 0.91984. To calculate the quantity of spirits at proof in a given quantity of spirit over or under proof strength: Multiply the quantity of spirit by the number of degrees of strength of the spirit, and divide the product by 100. The number of degrees of strength of any spirit is 100 plus the number of degrees overproof, or minus the number of degrees underproof. Example:—

19.8 gals. of spirit at 64.5 overproof.

$100 + 64.5 = 164.5$ proof strength.

$164.5 \times 19.8 \div 100 = 32.571$.

taken as 32.5 gals. at proof.

(Full conversion tables, specially compiled by Mr. F. C. J. Bird, were published in *THE CHEMIST AND DRUGGIST*, 1919, pp. 1507, *et seq.*)

The proportion of alcohol in a spirituous liquor is estimated by a determination of the specific gravity (at a standard temperature) after removal of “obscuration” (due to sugar or other dissolved matter) by distillation. (Special treatment is necessary with spirituous solutions of volatile oils or ammonia.) Mixtures of alcohol and water contract on admixture, the maximum occurring with 48 volumes of water and 52 volumes of anhydrous alcohol at 45.5° C. This property necessitates construction of special alcohol tables. The specific gravities in the accompanying table are taken from those compiled for use in the Government Laboratory:—

Specific gravity at 60° F. (15.5° C.)	Absolute Alcohol		Percentage of Proof Spirit	Specific gravity at 60° F. (15.5° C.)	Absolute Alcohol		Percentage of Proof Spirit
	By volume	By weight			By volume	By weight	
1000	0.00	0.00	0.00	966	29.48	24.23	51.53
999	0.66	0.53	1.16	965	30.34	24.97	53.04
998	1.34	1.07	2.33	964	31.18	25.68	54.51
997	2.02	1.61	3.52	963	31.99	26.37	55.93
996	2.71	2.17	4.73	962	32.79	27.06	57.33
995	3.42	2.73	5.98	961	33.56	27.73	58.68
994	4.14	3.31	7.24	960	34.33	28.39	60.03
993	4.88	3.90	8.51	959	35.06	29.03	61.32
992	5.63	4.51	9.82	958	35.79	29.66	62.60
991	6.40	5.13	11.16	957	36.50	30.28	63.85
990	7.18	5.76	12.53	956	37.20	30.90	65.09
989	7.98	6.41	13.94	955	37.89	31.50	66.29
988	8.80	7.08	15.38	954	38.57	32.09	67.48
987	9.65	7.76	16.85	953	39.22	32.67	68.62
986	10.51	8.46	18.34	952	39.87	33.25	69.76
985	11.40	9.18	19.87	951	40.50	33.81	70.87
984	12.29	9.91	21.44	950	41.13	34.37	71.98
983	13.20	10.65	23.02	949	41.74	34.92	73.05
982	14.13	11.42	24.66	948	42.35	35.46	74.12
981	15.08	12.20	26.32	947	42.95	36.00	75.17
980	16.04	12.99	27.99	946	43.54	36.54	76.21
979	17.02	13.80	29.70	945	44.13	37.07	77.24
978	18.00	14.61	31.42	944	44.71	37.60	78.26
977	18.99	15.43	33.15	943	45.28	38.12	79.26
976	19.98	16.25	34.87	942	45.85	38.64	80.26
975	20.97	17.08	36.61	941	46.40	39.15	81.23
974	21.96	17.90	38.35	940	46.95	39.65	82.19
973	22.94	18.72	40.06	939	47.50	40.15	83.15
972	23.91	19.53	41.77	938	48.04	40.65	84.10
971	24.85	20.34	43.47	937	48.57	41.15	85.04
970	25.83	21.14	45.14	936	49.10	41.64	85.97
969	26.77	21.93	46.77	935	49.63	42.13	86.89
968	27.69	22.71	48.38	934	50.15	42.62	87.81
967	28.69	23.48	49.98	933	50.67	43.11	88.71

Specific gravity at 60° F. (15.5° C.)	Absolute Alcohol		Percentage of Proof Spirit	Specific gravity at 60° F. (15.5° C.)	Absolute Alcohol		Percentage of Proof Spirit
	By volume	By weight			By volume	By weight	
932	51.18	43.59	89.61	863	80.25	73.81	140.65
931	51.68	44.06	90.49	862	80.61	74.22	141.28
930	52.18	44.53	91.36	861	80.97	74.64	141.91
929	52.67	45.00	92.23	860	81.32	75.05	142.54
928	53.16	45.47	93.09	859	81.68	75.47	143.16
927	53.65	45.94	93.95	858	82.03	75.88	143.78
926	54.14	46.40	94.80	857	82.38	76.30	144.40
925	54.62	46.87	95.65	856	82.73	76.71	145.01
924	55.10	47.33	96.49	855	83.08	77.12	145.62
923	55.58	47.79	97.33	854	83.42	77.53	146.23
922	56.05	48.25	98.16	853	83.77	77.94	146.83
921	56.52	48.71	98.98	852	84.11	78.35	147.43
920	56.99	49.17	99.80	851	84.44	78.76	148.03
91976	57.10	49.28	100.00	850	84.78	79.17	148.62
919	57.46	49.63	100.62	849	85.12	79.58	149.21
918	57.92	50.08	101.43	848	85.46	79.98	149.80
917	58.38	50.53	102.24	847	85.80	80.39	150.39
916	58.83	50.98	103.05	846	86.12	80.79	150.97
915	59.29	51.43	103.84	845	86.44	81.20	151.55
914	59.74	51.88	104.63	844	86.77	81.60	152.12
913	60.19	52.33	105.42	843	87.09	82.00	152.68
912	60.63	52.77	106.20	842	87.42	82.40	153.25
911	61.07	53.21	106.97	841	87.74	82.80	153.81
910	61.51	53.65	107.74	840	88.06	83.20	154.37
909	61.95	54.10	108.52	839	88.37	83.60	154.92
908	62.39	54.54	109.29	838	88.68	83.99	155.47
907	62.83	54.98	110.06	837	88.99	84.39	156.02
906	63.26	55.42	110.82	836	89.30	84.78	156.56
905	63.70	55.87	111.59	835	89.61	85.17	157.10
904	64.13	56.31	112.35	834	89.91	85.56	157.63
903	64.56	56.75	113.10	833	90.22	85.95	158.16
902	64.98	57.18	113.84	832	90.52	86.34	158.68
901	65.41	57.62	114.59	831	90.82	86.73	159.21
900	65.83	58.06	115.33	830	91.11	87.11	159.73
899	66.25	58.50	116.07	829	91.40	87.50	160.24
898	66.67	58.93	116.81	828	91.69	87.88	160.75
897	67.08	59.37	117.54	827	91.98	88.27	161.26
896	67.50	59.80	118.26	826	92.26	88.65	161.76
895	67.92	60.23	118.98	825	92.55	89.03	162.26
894	68.33	60.66	119.70	824	92.83	89.41	162.75
893	68.74	61.09	120.42	823	93.11	89.79	163.24
892	69.14	61.52	121.14	822	93.38	90.16	163.72
891	69.55	61.95	121.85	821	93.65	90.53	164.20
890	69.95	62.38	122.56	820	93.92	90.90	164.67
889	70.35	62.81	123.27	819	94.19	91.27	165.14
888	70.75	63.24	123.97	818	94.45	91.63	165.60
887	71.15	63.67	124.66	817	94.71	92.00	166.06
886	71.55	64.10	125.37	816	94.97	92.36	166.51
885	71.95	64.53	126.07	815	95.22	92.72	166.96
884	72.34	64.96	126.77	814	95.47	93.08	167.41
883	72.74	65.39	127.46	813	95.72	93.44	167.86
882	73.13	65.81	128.14	812	95.97	93.80	168.28
881	73.52	66.24	128.82	811	96.21	94.15	168.71
880	73.91	66.66	129.50	810	96.45	94.50	169.13
879	74.30	67.09	130.18	809	96.69	94.85	169.55
878	74.68	67.51	130.86	808	96.93	95.20	169.96
877	75.06	67.93	131.53	807	97.16	95.55	170.37
876	75.44	68.35	132.19	806	97.39	95.89	170.77
875	75.82	68.77	132.86	805	97.62	96.23	171.17
874	76.19	69.19	133.53	804	97.84	96.57	171.56
873	76.57	69.62	134.19	803	98.06	96.91	171.95
872	76.94	70.04	134.84	802	98.28	97.25	172.33
871	77.32	70.46	135.50	801	98.49	97.59	172.71
870	77.69	70.88	136.16	800	98.70	97.91	173.07
869	78.06	71.30	136.81	799	98.91	98.24	173.44
868	78.43	71.72	137.46	798	99.12	98.57	173.80
867	78.80	72.14	138.10	797	99.32	98.90	174.16
866	79.17	72.55	138.74	796	99.52	99.22	174.52
865	79.53	72.97	139.38	795	99.72	99.55	174.87
864	79.89	73.39	140.02	794	99.92	99.87	175.21
				79359	100.00	100.00	175.35

Official diluted alcohols can be made extemporaneously by taking the volume of 90 per cent. alcohol equivalent to the numerical strength of the desired alcohol in minims, ounces, cubic centimetres, etc., and making up to the corresponding 90 minims, ounces, cubic centimetres, etc., adjusting finally when cold. Thus:—

70 minims diluted to 90 minims gives 70% alcohol.

60 " " " 90 " " 60% "

45 " " " 90 " " 45% "

20 " " " 90 " " 20% "

The proportions for direct mixing are:—

70% Alcohol (sp. gr. 0.8899): 310.5 c.c. of water and 1,000 c.c. of 90% alcohol.

60% Alcohol (sp. gr. 0.9134): 536.5 c.c. of water and 1,000 c.c. of 90% alcohol.

45% Alcohol (sp. gr. 0.9435): 1,053.4 c.c. of water and 1,000 c.c. of 90% alcohol.

20% Alcohol (sp. gr. 0.9760): 3,558.0 c.c. of water and 1,000 c.c. of 90% alcohol.

The C.&D. Commercial Compendium

Alcohol, Duty-free.—Under the Finance Act, 1902, ethylic alcohol and methylic alcohol may be obtained free of duty for use in arts and manufactures, and by universities, hospitals, etc., for scientific purposes. The regulations are of a stringent character, bonds having to be entered into, and in some cases a Government official is on the premises while the alcohol is being used in a manufacture. Permission to use duty-free alcohol is not given where industrial spirit can be employed equally well for the same purpose. The quantity of duty-free ethyl alcohol used during 1923 was 597,669 proof gallons and of duty-free methyl alcohol 243,671 proof gallons.

Alcohol Manufacture.—Spirits can be made only by a licensed distiller, and the manufacture is subject throughout to close supervision by officers of Excise. The regulations provide for the production of absolute alcohol, and if a distiller is also an approved methylator he may concentrate spirits by redistillation or convert a portion of the spirits into ether. Spirits, on which the duty must first have been paid, may be redistilled into gin, cordials, etc., by one who is licensed as a rectifier or compounder. (See also Methylated Spirits.)

Alcohol Sale.—Sale may be either wholesale, that is, in quantities not less than two gallons or not less than two dozen reputed quart bottles, or retail, that is, in less quantities. Spirits may be sold wholesale by anyone who holds an Excise wholesale dealer's licence. A licensed distiller or rectifier or compounder may also, under his manufacturer's licence, sell at his licensed premises in wholesale quantities spirits made by him or sell elsewhere through a servant or an agent, provided the spirits are delivered direct from the premises where made to the purchaser. For sales of spirits in retail quantities a justice's licence as well as an Excise licence is necessary except in the following cases: (1) A spirit dealer may obtain a retail spirit licence off without a justice's licence if the premises are used exclusively for the sale of: (a) Intoxicating liquors, or (b) intoxicating liquors and non-intoxicating drinks, and provided in either case there is no internal connection with premises upon which some other business is carried on. (2) A railway restaurant car licence allowing the sale of intoxicating liquor to passengers for consumption on the car may be granted without a justice's licence. (3) A licence to a passenger vessel to sell intoxicating liquor to passengers for consumption on may be granted without a justice's licence. In the case of a licence granted under the Finance Act, 1911, to a manufacturing or wholesale chemist to sell rectified spirits of not less than 43 o.p., as it authorises sales in retail as well as wholesale quantities, the Commissioners of Customs and Excise hold the view that they cannot grant it except to the holder of a justice's certificate. Without being required to be licensed, chemists are allowed to sell to medical and scientific gentlemen for strictly medical and scientific purposes not more than five ounces of rectified spirit at one time. The purposes referred to include the use of spirit by dentists in their profession. The maximum quantity was formerly eight ounces, but in view of the provisions of the Immature Spirits (Restrictions) Act, 1915, the amount that could be sold was reduced to five ounces.

Alien.—Any person who is not a British subject is an alien. As the result of statutory extension of common-law privileges, an alien may now acquire, hold or dispose of real and personal property of every description as freely as if he were a British subject. An alien may not, however, own a British ship, although he may hold shares in a company which owns such a vessel. He is also disqualified from being a member of the Privy Council or of either House of Parliament, and from holding any office or position of trust, either civil or military, under the Crown. An alien cannot exercise either parliamentary or municipal franchise. If he has been domiciled for ten years in this country, an alien

is liable for jury service if otherwise qualified; but his presence on a jury may be challenged by any party to the proceedings. By virtue of the Aliens Restriction (Amendment) Act, 1919, no alien may hold a pilotage certificate for any pilotage district in the United Kingdom, and the employment of aliens upon British ships is restricted. It is also provided that no alien shall be appointed to any office in the Civil Service. Except with the permission of the Home Office, an alien must not use any name other than the one by which he was known before August 4, 1914. Former enemy aliens (i.e., subjects of countries with which we were at war) are debarred from having any interest in land in the United Kingdom (a three years' tenancy is permitted), or in a British key industry, and from holding any share in a company owning a British ship. The Aliens Order, 1920, contains stringent provisions regulating the admission of aliens to this country, their supervision while here and their deportation.

Alkali Inspectors' Reports.—These reports are issued by the Stationery Office annually about June, and deal with the work done during the year in carrying out the provisions of the Alkali, etc., Works Regulation Act, 1906. The work entails personal inspection of registered alkali and other works, and quantitative estimations are made of the noxious constituents of chimney and other escaping gases. Complaints of nuisances received from Medical Officers of Health and others are investigated in order to ascertain whether they can be abated. Nuisance from petroleum refineries, bleaching of wool by means of sulphur dioxide, excessive smoke from coke ovens are among the subjects that have recently been investigated by the alkali inspector, although those operations are outside the operations of the Act (q.v.).

Alkaloids, Sale of.—Part I of the Poisons Schedule of the Poisons and Pharmacy Act, 1908. (subsequently amended by Orders in Council), includes specifically the following entries of alkaloids and chemical derivatives:—

Aconitine and preparations.

Atropine and its salts and their preparations.

Preparations or admixtures containing 0.1 or more per cent. of belladonna alkaloids.

Preparations or admixtures containing 0.1 or more per cent. of coca alkaloids.

Diamorphine (heroin) and all preparations or admixtures containing 0.1 per cent. of diamorphine.

Egonine and all preparations or admixtures containing 0.1 per cent. of egonine.

Preparations or admixtures containing 0.2 or more per cent. of strychnine.

Preparations or admixtures containing 0.2 or more per cent. of morphine.

In addition there is an entry, "all poisonous vegetable alkaloids . . . and their salts and all poisonous derivatives of vegetable alkaloids," which brings in colchicine, emetine, and hyoscyne. Picrotoxin is also specifically mentioned in Part I. The deletion of the word "vegetable" before "alkaloids" in the entry just quoted has been decided upon by the Council of the Pharmaceutical Society, and will take effect so soon as the Privy Council signifies its assent. There has been no legal definition of "poisonous alkaloid," and an arbitrary rule has been suggested excluding alkaloids which can be safely administered in doses up to about two grains. This rules out quinine, caffeine, narcotine, pellerine, and beberine. Cocaine, egonine, diamorphine and morphine are included in the Dangerous Drugs Act. The sale conditions of alkaloids in Part I of the Poisons Schedule must be observed (see Poisons Sale), and also the more stringent conditions imposed by the Dangerous Drugs Acts (q.v.). In Part II of the Poisons Schedule there is an "omnibus" or general clause which brings into that part of the schedule all preparations or admixtures of Part I poisons not specifically included in Part I. The effect of this is to include all alkaloid-containing preparations or admixtures of alkaloids, and brings in belladonna plasters, vin. ipecac. and tr. camph. co.

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[12]

HURRIED PEOPLE

and, being in Rome, have to do much as the other Romans do.

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[13]

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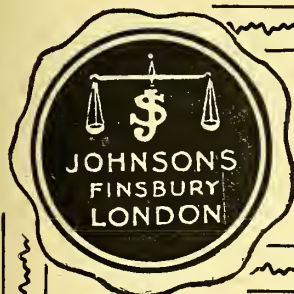
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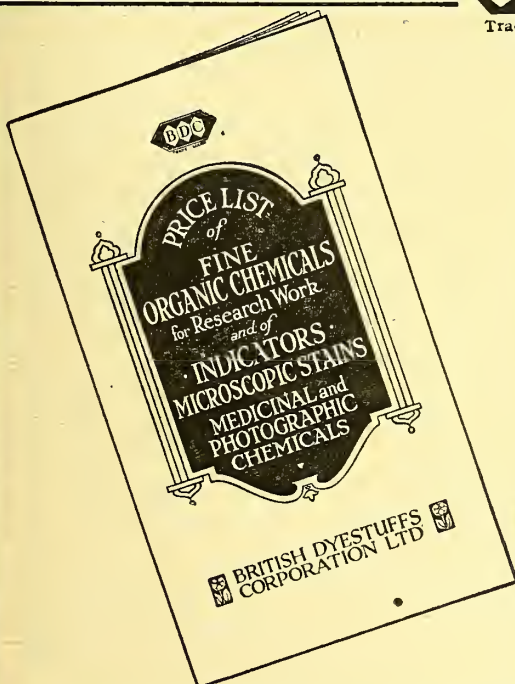
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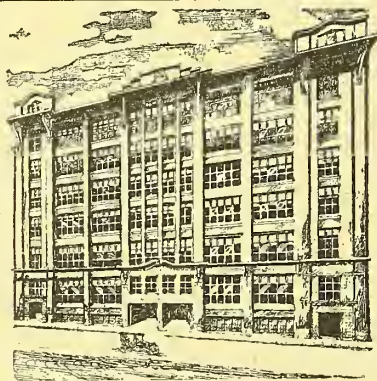
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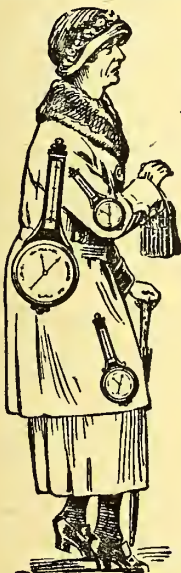
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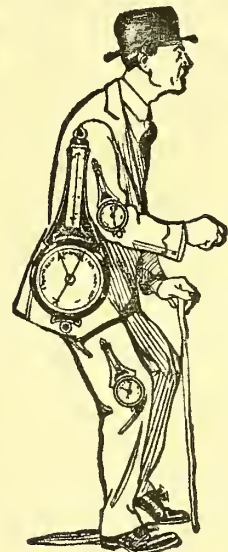
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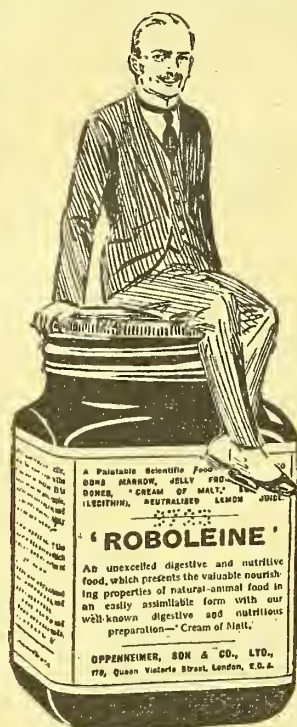
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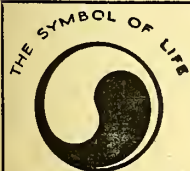
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THE CHEMIST AND DRUGGIST SUPPLEMENT

42 CANNON ST.
LONDON E.C.4

AUGUST 23, 1924

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2.—LONDON, N.W.—Off Euston Road, in market street. Old-established Cash Business, with N.H.I.; well stocked and fitted; returns, £33 weekly; held on agreement; rent, £84 p.a.; let off, £49 p.a.; price £750, or reasonable offer. (116)

3.—LONDON, N.4.—Well-fitted, old-established Cash Pharmacy; returns, £20 per week; rent, £75; 13 years' lease; opportunity for capable man; price £550. (112)

4.—LONDON, S.W.—Excellent fitted shop, in busy thoroughfare; returns, £15-£20 per week; 9 years' lease, at £65 p.a.; offers invited. (133)

5.—LONDON, S.W.—Well situated, sound Cash Drug Stores; returns, £19 per week; rent, £70; let off, 7s. 6d. per week; 3 years' agreement, option of 7 years; price £850, or offer. (101)

6.—LONDON, N.W.—Cash Business, in busy thoroughfare, trams and buses stop at door; returns, £33 per week, excluding N.H.I.; stock, about £500; 20 years' lease at £99 p.a.; good living accommodation; offers invited. (132)

7.—CUMBERLAND. — Well-fitted, unopposed Pharmacy; returns, £30 per week; 1½ years' lease, renewable; rent, £25 p.a.; Kodak, N.H.I.; price £550, all at. (103)

8.—BRIGHTON.—Cash Drug Stores; recently established; returns, £12 per week, but good scope for increase by a young qualified man; 7 years' lease; rent, £42 per annum; good living accommodation; centrally situated; £770, or offer. (121)

9.—MIDLANDS.—Small Business, in busy part of important town; returns, £26 per week; Kodak, Wine Licence, etc.; rent, £45; dwelling house let off at £13 p.a.; 21 years' lease; price £650; freehold property can be acquired. (136)

10.—MIDLANDS.—Well-stocked General Retail, Dispensing and Photographic, in small country town; returns, £37 per week; rent, £40 p.a.; price £1,535, or offer. (108)

11.—S. WALES.—For immediate disposal, very old-established Dispensing Business; returns, £29 p.w.; held on yearly tenancy at £84 p.a.; stock about £500; conveniently fitted; freehold property, with excellent dwelling accommodation can be acquired; offers invited. (135)

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4.—LANCS.—Light Family Retail, with N.H.I.; main road position; unopposed; returns exceed £1,500; good house and shop; rent, £50; on lease; price £1,250; strongly recommended.

5.—SOUTH COAST.—Good-class Retail and Dispensing, in main road position; returns, about £25 weekly; good profits; rent, £52 clear; long lease; well stocked; price £800.

6.—LONDON, S.W.—Profitable Cash Drug Stores, in main road; returns, £22 weekly; low rent; house available; well stocked; ill-health compels sale; price £550.

BUSINESSES WANTED.

Messrs. Berdoe & Fish are in immediate want of sound businesses at prices ranging from £700 to £4,000, and cordially invite correspondence. We have a large number of genuine cash buyers waiting and are able to negotiate sales quickly and with the utmost privacy.

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LOW FEES.

We desire particularly to draw the attention of Colonial and Foreign Subscribers to the fact that in cases where they require partners, agents or assistants, or wish to sell their businesses, an Advertisement in this Supplement, placed in every copy of "The Chemist and Druggist," should be the readiest means of helping them to attain their object. The tariff for such announcements is given under the appropriate headings in the Supplement. Instructions and remittances can be sent to us direct or through the advertisers' correspondents in this country.

BUSINESSES FOR DISPOSAL.

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The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

DURHAM CO.—Good middle-class Family Dispensing and Retail, with Kodak Agency; established 20 years; excellent position in prosperous town; returns £2,200, about; very well-fitted shop with house attached; basement, let at 12s. 6d. weekly; price £2,700, which includes property valued at £1,500; a bargain. Marsden, Chemists' Valuer, Lyndon, Mayfield Road, Bridlington.

HANTS.—Drug Stores, etc.; established 14 years; returns £950; scope for great improvement; valuation or accept £650. "Labore," 24/40, Office of this Paper.

LANCASHIRE INDUSTRIAL TOWN.—Light Retail, Family and Dispensing Business for disposal; established 13 years; returns over £30 weekly; house attached; rent £55 per annum, or will sell premises; price for business about £1,250. Apply Moffat, 56 Hanover Street, Liverpool.

LIVERPOOL.—Old-established Retail; much neglected; large corner shop; returns, about £1,000 yearly; could easily be doubled; stock and fixtures recently valued over £400; rent, £60; rates, £50; 5 years' lease to run; price £750, or offer; large house, newly decorated; private entrance, electric and gas. Apply, "Aceto," 31/24, Office of this Paper.

LONDON, N.W. (main road).—Cash Retail and Dispensing, Photographic, N.H.I.; healthy growing district; tram and bus stop; returns, £2,000, with plenty of scope; long lease; good accommodation available; genuine concern; well stocked; price to be arranged. Apply, "E. M. B.," 30/21, Office of this Paper.

LONDON, S.E.—Chemist, opening large Pharmacy, wishes to sell his present compact little business; turnover, about £1,100 per year; profits exceptionally high; low expenses; good working stock, and handsomely fitted; good house at fair rent; new lease granted; prompt purchaser with ready cash will get a bargain. 31/6, Office of this Paper.

MIDLANDS.—Good class general Retail, Dispensing, with wine and spirit business, for sale; Kodak agency; good shop, well stocked; good house and garden; held on lease; unopposed; N.H.I. dispensing and private; Spanish mahogany fittings in shop. Further details on application. 30/2, Office of this Paper.

MIDLANDS.—Drug Store, in thickly populated district; returns last year, £1,200; scope for increase; rent, £30 per annum; electric throughout; house attached; stock room and cellar; vendor estimated stock £500; reason for disposal ill health; will accept £850. 30/11, Office of this Paper.

MIDLANDS.—Well-stocked and fitted Drug Store, chiefly toilet, sundries and prescribing; small photographic, few patents; excellent scope for N.H.I.; lock-up; rental only 8s. clear; returns £500, increasing. Owner going abroad, asks £500 everything for quick cash sale. 30/14, Office of this Paper.

SHROPSHIRE market town; established 98 years; light Retail; Kodak agency; under unqualified 5 years; returns last 12 months about £2,500; big scope for qualified; good house, 8 rooms upstairs, bath (h. and c.) upstairs and down; exceptionally long garden full of fruit trees; stable, coach-house, garage; price of business £2,500; large stock; own property; sell or grant lease. Banker's reference required. 30/16, Office of this Paper.

SOUTH COAST.—High-class Pharmacy; residential town; handsomely fitted; spacious and well-stocked; lock-up; valuable lease; plenty of scope; price £2,200; further particulars on application. 31/23, Office of this Paper.

SOUTH COAST RESORT.—Recently established Business, excellently situated in centre of extensive developments; recent returns have reached £47; price £2,000, with 7 or 14 years' lease, at £200 p.a.; the freehold could be acquired for £3,000, £2,000 of which could remain on mortgage. 30/19, Office of this Paper.

SOUTH WALES.—A well-established Mixed Business; very much neglected; corner site on two main roads in growing town (a splendid opportunity for energetic man); stock about £1,500; no agents. Further particulars, "Chemist," 8 Caledonian Road, King's Cross, London, N.

WESTON-SUPER-MARE.—High-class Retail and Dispensing Business; double-fronted shop, well fitted and fully stocked; Kodak Agency; turnover £1,450, increasing; no near opposition; very convenient modern house and garden; price £3,200 (business £1,500, house £1,700). Full particulars on receipt of bankers' reference. 27/37, Office of this Paper.

YORKSHIRE.—Very old-established Country Business; returns to end of July this year average £53 weekly; unopposed; price of business and property £2,600; only replies enclosing bankers' reference considered. Apply 29/9, Office of this Paper.

A GOOD-CLASS Dispensing Business in residential district, West of England; returns, about £1,500; no side lines or Insurance; moderate living accommodation; rent, inclusive of rates, £120; new lease will be granted, or premises sold; easily worked, and affording a splendid chance to develop on pharmacy lines. Particulars to applicants furnishing satisfactory reference. 30/340, Office of this Paper.

GENUINE old-established Chemist's Business, with good living accommodation, in large Lancashire town; a rare opportunity for energetic man; nicely fitted shop in a splendid position, with a good saleable stock; takings average £22 weekly; unusually profitable; scope for increase; vendor entering wholesale; best offer secures. Poyser, Chemists' Valuer, Wadsley Bridge, Sheffield.

OLD-ESTABLISHED Herbalist Chemist and Druggist; owner retiring; West suburb; suitable for lady or gentleman; good Family trade; £500 net profit can easily be made; 6-roomed house, double-fronted shop and small garden. Principal with at least £1,500 capital may obtain further particulars of Messrs. Tabernacle & Son, 15 Hart Street, Bloomsbury Square, W.C.1.

OLD-ESTABLISHED Retail and Photographic Business; Kodak Agency; living accommodation; long lease; rent, £50; net profit, £412; price, stock, fixtures, etc., at valuation, and lease, goodwill, £350; pleasant district in the South of England. "T. A. D.," 29/39, Office of this Paper.

£350.—TURNOVER £20; rent 25s.; two bedrooms, two sitting rooms, kitchen, etc.; store room, dark room; good main road position, near station. Bidie, Chemist, Banbury.

BUSINESSES WANTED.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid.

The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

CASH Pharmacy required in London suburb (not working-class), with or without accommodation; £800 available for purchase of small business, in good position, offering scope for development, or as first instalment for a larger concern, or £10 bonus for information leading to opening. "Esperance," 27/32, Office of this Paper.

PHARMACEUTICAL Chemist wishes to purchase good-class Business; premises also will be entertained. Replies, in strict confidence, 16/26, Office of this Paper.

REQUIRED shortly, good-class Business; living accommodation an advantage; town or country; Lancs, Cheshire, Shropshire preferred, not essential; turnover not less than £2,500, with scope. Replies treated confidentially. "Business," 32/16, Office of this Paper.

WANTED toward end of October, within easy reach of Bath or Bristol, or in pleasant seaside town, a well-established business yielding a profit of £500 to £600 after paying all expenses. Living accommodation not essential. A good (movable) proprietary would be considered. Strictest confidence assured. 30/34, Office of this Paper.

PARTNERSHIPS.

BRITISH COLONY.—An active Partner is required to take up half-share in a sound, old-established Chemist's Business in a progressive and healthy Colony; must be able to take over full control; good salary and half-share of net profits; price for half-share, £4,500. Apply, Berdoo & Fish, Valuers, 41 Argyle Square, King's Cross, W.C.1.

PARTNER wanted, Chemist preferred, who will finance the English Patent of a valuable article for ladies' wear now on the market, with unlimited scope. 31/9, Office of this Paper.

PARTNERSHIP wanted by Chemist, 29, married; good all-round man; hard worker; Retail, Dispensing, Photography, Window-dressing; London or coast preferred; cash investment, £350. 27/30, Office of this Paper.

SALE BY AUCTION.

COOTEHILL, CO. CAVAN.

OLD-ESTABLISHED PHARMACY FOR SALE.**TO BE SOLD BY PUBLIC AUCTION**

(if not previously disposed of by Private Treaty),

On MONDAY, 1st SEPTEMBER, 1924, at 1 o'clock
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The Interest and Goodwill in that very old-established Pharmacy carried on by Robert Armstrong, Esq. (who is retiring from business), in Main Street, Cootehill, County Cavan. Mr. Armstrong has carried on a most successful business in this place for almost 40 years.

The premises, situate in the Main Street and best business part of the town, are in splendid condition, and include large Shop and Offices, very commodious Dwelling-house, large Yard, and very large Vegetable, Fruit and Flower Garden with Greenhouse, all at the rear of same.

The business (extensive and increasing) includes Dispensing and a very lucrative Retail Drug Trade, etc., etc. The Pharmacy is fitted with pitch-pine drawers, with gold recess labels, and gold-labelled bottles, etc., all in most up-to-date style.

Kodak Agency, Wine Licence.

The premises are held at a nominal rent under a Lease of which about 74 years is unexpired.

The Stock and Fittings can be taken over by the purchaser, if agreed to, at a valuation, the procedure of same and the parties to take same to be all first settled in writing.

Seldom have the public such an opportunity of acquiring a business place so desirable. Full inspection invited, and every information supplied by arrangement with the undersigned.

For full terms and Conditions of Sale apply to

JOSEPH BOWDEN, Auctioneer, etc.,
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Solicitor having Carriage of Sale,
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AUCTION ROOMS, FISHERGATE, RIPON.

MESSRS. P. BRAITHWAITE & SON beg to announce that they have received instructions from P. S. Booth, Esq. (Accountant to the Association of Manufacturing Chemists, Ltd., 35 Exchange Chambers, 2 Brixton Street, Liverpool, as Trustee under Deed of Assignment re R. E. O. Beecher), to remove from the premises lately occupied by Mr. R. E. O. Beecher, and to **SELL BY AUCTION**

On FRIDAY, AUGUST 22, 1924,
the Valuable

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AGENCIES.

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AUSTRALIA-NEW ZEALAND.—A well-known Manufacturers' House in Sydney, with connections in the entire trade throughout the Commonwealth and New Zealand, is open to accept first-class Sole Agencies in Patent Medicines, Chemists' Sundries, Toilet and Fancy Goods; highest London references. Write "Z. B. A.," 51/537, Office of this Paper.

GERMANY.—In accordance with a new law, dated July 6, the importation of English Patent Medicines into Germany is again permitted. During pre-war days we transacted a large trade with these medicines in the larger towns and seaside resorts, and are now resolved to take up this business again. There is a good demand here, and makers of these goods who are interested in the sale of Patent Medicines in Germany are requested to write to us. Letters 18/37, Office of this Paper.

IRISH FREE STATE.—Traveller seeks representation for Southern Ireland of first-class Chemists' Sundries House, Fancy Soap House, and Toilet Goods immediately; sound and solvent connection; splendid opening for Combs, Tooth and Shaving Brushes and all Toilet Sundries. 26/36, Office of this Paper.

COMMERCIAL Traveller, married, covering Notts, Derbys, Leicestershire, Lincs, Cambs, etc., desires position as Agent, on commission basis, for Proprietary or similar lines. 22/36, Office of this Paper.

LARGE well-established Wholesale Firm, with first-class connections with Chemists and Wholesalers, having representatives covering Central and South America and the Mediterranean, is prepared to entertain proposals on reasonable terms for a limited number of Agencies. Apply "J. M. T.," 51/542, Office of this Paper.

LEADING FRENCH PERFUMERS

ARE anxious to get into touch with a firm of standing who will act as their Agents in the United Kingdom. These Perfumes have a large sale in France and America. The goods are branded. Apply, with full particulars as to sales organisation and any other agencies held, to 14/31, Office of this Paper.

PHARMACIST, shortly returning East Africa, invites correspondence from firm seeking agencies or representation abroad. 30/8, Office of this Paper.

FOR SALE.

6s. for 50 words or less; 6d. for every additional 10 words or less, prepaid.

FOUR cases Hale's Vin Sanguis, with Quinine, large and small, 7 dozen Ozonia, Oppenheimer's Palatinoids; list sent; offers. 20/39, Office of this Paper.

PREMISES FOR SALE.

FOR Sale, Lock-up (freehold) Shop, newly built and fitted, ready for immediate business; main country road; 3,000 inhabitants; no other Chemist; 30 miles from London; and encluse inclusive. Apply, "Seller," 31/18, Office of this Paper.

SITUATIONS OPEN.**[HOME.]****RETAIL.**

6s. for 40 words or less; 6d. for every additional 10 words or less, prepaid.

The ADVERTISER may if preferred have replies addressed to this Office, and forwarded on payment of an additional charge of 1/-.

BIRMINGHAM (near).—Qualified Manager, married, for quick Cash Light Retail business; has been well managed for several years; lucrative permanency to the right man, who must be ready to commence duty on September 1. "W. B.," 29/8, Office of this Paper.

BOURNEMOUTH.—A vacancy occurs for a bright Junior to fill the place of one leaving to study for Part II. Apply, with full particulars of experience, age, salary, and enclose recent photograph, to J. K. Matterson, Chemist, Bournemouth.

BRADFORD.—Chemist requires temporary (possibly permanent) unqualified gentleman or lady. State terms, references, etc., 29/37, Office of this Paper.

BURY ST. EDMUNDS.—Wanted, young qualified Assistant (male) for good-class country business; Dispensing and Counter; permanency to suitable man. Please give full particulars in first letter, salary (outdoors), age, height, etc., with references, to W. H. Stones, 56 Abbeygate Street, Bury St. Edmunds.

CLAPHAM, S.W.—Qualified Assistant, about 30 (outdoors), middle of September, accustomed to suburban trade; N.H.I. Dispensing and Photography. Apply, with full particulars of experience, age, salary required, and when at liberty, R. T. Jennings, 487 Wandsworth Road, S.W.8.

DEVON.—Wanted, qualified Assistant; young; energetic; highly recommended. Apply, with three copies recent testimonials, photograph, 29/34, Office of this Paper.

EASTBOURNE.—Wanted, early in September, for good-class business, Assistant with first-class Dispensing and Retail experience. Apply, giving age, height, experience, references, and salary required, photo if possible, to Senior, Chemist, Eastbourne.

EASTERN Counties.—Unqualified Assistant, male, wanted for good class light retail and dispensing business. No heavy trade. Please give full particulars, age, height, salary (outdoors), experience, etc., in first letter. 29/40, Office of this Paper.

KEYNSHAM, NEAR BRISTOL.—Wanted, about end of September, Improver or Junior (male); good Photographic and counter experience essential; able to develop and print well; arrangements made if necessary for part time at College. Full particulars, salary, etc., Mills, Chemist, Bath.

ONDON.—Lady Assistant required, must be experienced in dispensing and retail, and have Minor certificate of Pharmaceutical Society. Please state experience, salary, age, when liberty; permanency if suitable. 30/22, Office of this Paper.

ONDON, E.—Assistant, young, gentleman, qualified: N.H.I. and quick Counter trade; salary to commence £4 10s. Full particulars first letter, age, experience, references, etc. Apply Hasinghams, Ltd., Chemists, 34c Green Street, E.2.

ONDON, N.12.—An Assistant (gentleman) required as soon as possible; outdoors; qualified preferred; must be good Dispenser and Counterman. Apply, with full particulars, to J. Sandberg, Chemist, North Finchley, London, N.12.

ONDON, S.E.—Wanted at once, a lady, fully qualified. An excellent opening for a steady worker. Apply 30/3, Office of this Paper.

ONDON, W.—Male Junior Assistant; one with recent London experience preferred. Lever, 151 Westbourne Terrace, Waddington, W.2.

MANCHESTER.—Locum wanted from September 6 until September 20; qualified. Particulars to "Pharmacist," c/o J. H. Smith & Son, Advertising Agents, Blackfriars, Manchester.

MANCHESTER.—Manager, qualified, required for branch to be opened shortly; Optical and Photographic experience an advantage, but not essential. Apply, stating full particulars of recent experience, age and salary required, to Colmans, Ltd., 61 Bury New Road, Manchester.

MANCHESTER district.—Wanted, Manager (qualified), 27-35, first-class salesman and display man; N.H.I. and busy counter trade. State age, qualifications, and salary required. Submit copies of references and photograph. 30/31, Office of this Paper.

MIDLANDS.—Smart, energetic, qualified Manager required, single, not under 30 years of age; liberal interest in the profits offered to suitable applicant. "Mid," 29/80, Office of this Paper.

OXFORD.—Messrs. Dolbear & Goodall, 108 High Street, Oxford, require an Assistant for Dispensing Counter, October 1, capable, with experience of high-class Dispensing; outdoors.

RADCLIFFE.—Unqualified Assistant (male); outdoors. Apply, stating age, experience, salary desired, when at liberty, Atherton, 35 Stand Lane, Radcliffe, near Manchester.

RHYL.—Wanted, Junior Assistant; good address and highest references indispensable. State salary required and full particulars to P. J. Ashfield, Chemist, Rhyl.

STAMFORD.—Outdoor Assistant for Dispensing and Family business. State age, experience, salary, photo if convenient. Dickinson, St. Mary's Street, Stamford.

TORQUAY.—Wanted, about end of September, qualified Assistant (male), accustomed to good-class Retail and Dispensing business. Apply, stating full particulars and salary required, to E. Quant, Landour, Torquay.

TUNBRIDGE WELLS.—Assistant as Dispenser; must be competent, capable of running Dispensing Department, and have had good experience; state when disengaged, details of experience, salary required. Godkin, Chemist, 1 High Street, Tunbridge Wells.

ABSOLUTELY reliable, qualified Assistant required, capable of successfully managing South Coast business; must have 1-round experience dispensing and counter; of good appearance, tidy, and exceptional references essential; salary £4, and good commission. To a good man the position offers unusual future prospects. Kindly state all particulars, age, when free. 2/18, Office of this Paper.

ASSISTANT, young, of good address and education; preferably one just completing apprenticeship, with fair experience of good-class Dispensing and Pharmacy (not Insurance); hours 4.5 to 7, Thursdays 1 p.m.; outdoor; no Sunday duty. Apply by letter, "F. W.," c/o Egan, Fleet Street, Liverpool.

ASSISTANT or Improver wanted at once, high-class business, easy berth; dispensing, window dressing, counter. Palmer, Hornbury, Bristol.

AT once, qualified Locum for a fortnight. Kent. Full particulars, copies of testimonials or references, salary, etc., first letter, to "Falstaff," 31/30, Office of this Paper.

CAPABLE gentleman Assistant wanted soon in good Dispensing business as Junior; sound practical knowledge of Dispensing essential. Apply, with full particulars of experience, age, salary required, and stating date when able to commence, to Sells & Son, 25 Grosvenor Road, Tunbridge Wells.

CHEMIST-OPTICIAN (S.M.C. or B.O.A.) as Branch Manager; expert Optician and Salesman necessary. Give in first letter full particulars re experience, references, salary required, age, height, send photo, to Waller & Riley, Ltd., Bolton.

IMMEDIATELY, for country business, qualified active Assistant, obliging and reliable, to act as supervisor and cover to private company. Easy hours, comfortable berth, permanency. Age immaterial so long as otherwise suitable; single or widower preferred. Give full details in first letter as to age, reference to last appointment, experience, and how soon available, photo if possible to "Statim," 31/22, Office of this Paper.

IMPROVER or Junior (male). State age, experience, height, references, salary required (outdoors), and when disengaged. G. H. Cousins, Chemist, Leek.

IMPROVER or young Junior (South Countryman) required from mid September for middle-class Pharmacy; practical Photographic knowledge essential. Full particulars in first letter. Fry, Chemist, Albert Road, Southsea, Hampshire.

JUNIOR Assistant (male) required for good-class business on South Coast; September 15; outdoor; permanency; reasonable hours and comfortable berth. Please state experience, references and salary in first letter. 26/2, Office of this Paper.

JUNIOR (male) required about middle of September; one with good-class suburban experience preferred. Particulars as to experience, salary expected (outdoors) to J. Noble, 20 Wadecote Road, Wallington, Surrey. Applications not answered in three days respectfully declined.

JUNIOR Assistant (male, unqualified) required in good-class up-to-date Pharmacy; must be good Dispenser (no N.H.I.). Apply, giving full particulars of experience and salary required (outdoors), to A. H. Price, 2 Guildford Road, Woking, Surrey.

LADY Dispenser required for Balham, Church End, and Hammersmith districts; Counter experience an advantage. Apply by letter, stating full particulars, to 51/547, Office of this Paper.

LOCUM, qualified, September 8 to September 22 inclusive, or any fortnight in September; must be thoroughly reliable. Apply, with references and salary required, "South Wales," 28/36, Office of this Paper.

LOCUM; immediately; good experience and qualified. Apply Eden, 14 St. Aldate's, Oxford.

LOCUM wanted from September 1 for two weeks, must be qualified and possess good references; outdoor; assistant kept. Apply, stating age, salary, and full particulars, to Derbyshire, Pharmaceutical Chemist, Malvern Link, Worcestershire.

LOCUM, qualified; holiday relief for lady Assistant; September 5 to 20 inclusive; small country town East Midlands; light duties, short hours. Reply with full particulars to 30/20, Office of this Paper.

MANAGER, qualified, for South London. State age, salary and experience to 51/549, Office of this Paper.

PHARMACISTS wanted as Managers of new branches; permanencies and good prospects. Timothy White Co., Ltd., Portsmouth.

QUALIFIED Assistant wanted by end of August; good general experience requisite; applicants please state salary expected, married or single, recent references or testimonials; permanency for suitable man. Latham, M.P.S., Shirebrook, Derbyshire.

QUALIFIED Locum required from September 6-20, both dates included if possible. Price, Chemist, 51 Fairfax Road, Hampstead, N.W.6. Telephone: 1703 Hampstead.

QUALIFIED Branch Manager wanted, able to speak French; young and energetic; knowledge of Photographic trade; good Window-dresser. Apply, stating experience and salary required, to H. Lester, 64 Gt. Titchfield Street, W.1.

QUALIFIED.—Young man required as Assistant for about four weeks in seaside town; some Photographic knowledge; start duties about 30th inst. Full details in first letter, please. Cole & Son, Chemists, Weymouth.

QUALIFIED Assistant, young and energetic, required immediately; must be quick and accurate Dispenser, and used to good-class business. Reply, giving age, experience, etc., and salary required, which must be moderate, to Booth, Chemist, North Farnborough, Hants.

QUALIFIED Branch Manager, with Photographic and Optical experience, required early in September; permanent situation for suitable man. Applicants please state full particulars, with references, to "Pharmacist," 86 Victor Street, Grimsby.

QUALIFIED young lady or gentleman as Manager; berth near London; easy hours; two assistants; Dispensing, Counter; good opportunity to learn Counter Prescribing and Retail experience. Reply, stating wages, etc., and when free, to "W. K. B.," 30/25, Office of this Paper.

QUALIFIED Assistant, about 30, to take charge; well-up in Dispensing, Window-dressing and Photography; permanency and progressive salary to right man; living accommodation if desired; South-Eastern county. Apply in first instance to 31/7, Office of this Paper.

SEPTEMBER 1.—Good Junior required for Dispensing business, Tunbridge Wells. Full particulars to J. H. Bishop, Langley Place, West St. Leonards.

TEMPORARY Clerk for pricing Chemists' Stock Books in London required during September and October; must be experienced in Patents and Sundries. Apply "X.," 31/37, Office of this Paper.

UNQUALIFIED.—End September; Light Country Retail, near Nottingham; short hours; a student could put in good work prior to attending College, or time off could be arranged for attending evening classes. 29/1, Office of this Paper.

WANTED, unqualified Assistant, 25-35; good Counterman, Window-dresser; Retail, N.H.I. Dispensing; usual hours; Sunday duties, two hours every fourth. Apply personally or write, stating salary required, etc., Austins, Ltd., 196 Bermondsey Street, S.E.1.

WANTED, a really smart qualified Assistant for a first-class business in the West-End; must be good Counterman and well up in all departments; permanent and improving position to a really competent man. Apply "D. E. F.," 26/34, Office of this Paper.

WANTED, experienced Assistant, accustomed to good-class Retail and Dispensing. Please give full particulars in first instance as to salary required, experience, references, etc. Tilley, Chemist, Droitwich Spa.

WANTED, young unqualified male Assistant for Chemist and Optical Department, possessing working knowledge of all branches of Pharmacy, Salesmanship and Window-dressing; must be energetic, courteous, and of good address; one desiring permanency preferred; two assistants kept. Apply, stating age, salary, and usual particulars, not later than first post Monday, August 25, 1924, to Mr. Henry J. Parker, M.P.S., D.B.O.A., Co-operative Society, Ltd., Hebden Bridge.

WANTED, early in September, good unqualified Assistant with knowledge of Photography (sales only). Apply, with full particulars as to age, experience, and salary required, to A. P. Tilley, Pharmacist, Burslem, Stoke-upon-Trent.

WANTED, immediately, young lady Assistant; Counter experience; state particulars and salary. Write in first instance to W. G. Collins, 6 Endymion Road, Brixton, S.W.2.

WANTED shortly, steady unqualified Assistant for London suburb; permanent situation; middle-class trade; usual routine, Dispensing, Counter, etc., with some N.H.I. and Photographic; age preferred 20-25. Apply, stating salary, full particulars (treated strictly confidentially), to P.C.B. 1/13, Office of this Paper.

WOMEN Clerks, temporary, required at once for London office; knowledge of Drugs; able to read and interpret prescriptions. 51/548, Office of this Paper.

YOUNG lady required, unqualified, for Dispensing and Window-dressing; one used to routine of Pharmacy essential. Please reply, with copies of references, to De Peare, 14 Highbury Park, N. Letters unanswered in five days declined with thanks.

YOUNG, energetic man wanted in a few weeks for Rexall Store Pharmacy with Kodak Agency; good opportunity for smart Counterman and Window-dresser. State salary required and full particulars, commission, to 25/37, Office of this Paper.

YOUNG ladies required, used to Retail Pharmacy, for office work in London; interview necessary. 28/29, Office of this Paper.

£4 WEEKLY.—Thoroughly competent male Assistant for Midlands; must have thorough knowledge of first-class Dispensing and Counter, with Photography; age 25 to 35; references to cover last three years required; permanency if suitable. 29/2, Office of this Paper.

PHOTOGRAPHS, TESTIMONIALS, &c.

When answering advertisements in this section applicants are strongly advised not to send (unless specially requested) **ORIGINAL TESTIMONIALS** or **VALUABLE PHOTOGRAPHS**. As can be readily understood, when an advertiser receives from 60 to 100 replies the task of returning photographs, testimonials, &c., is one of some difficulty.

WHOLESALE.

SCOTLAND, IRELAND AND SOUTH WALES.—Traveller, with country connection among Chemists, etc., to handle lucrative side line on commission basis. Apply, with full particulars, 51/545, Office of this Paper.

EAST COAST, Midlands, Northern Counties, and Scotland.—A real selling side line; 20% commission; sells 3d. and 6d.; recommends itself by merit; supplies a need; novel show matter and bonus schemes; fine opportunity, good Salesman with live personal connection. 30/4, Office of this Paper.

EXPERIENCED Assistant, with good knowledge trade, required for Wholesale Cash Counter. State age, experience, wages required, etc., etc., to Goodall, Backhouse & Co., Leeds.

EXPERIENCED Assistant wanted by Lancashire house as First Hand in Steam Laboratory; must be reliable and well up in general routine work, Tinctures, Extracts, Ointments, etc. Please give full particulars of experience, age, wages required to 30/13, Office of this Paper.

REPRESENTATIVE required by an old-established Sundries House; one with a good connection amongst Chemists and Hairdressers in Scotland and Yorkshire. Send full particulars to P.C.B. 87/15, Office of this Paper.

REPRESENTATIVE required by London firm of Food Specialists to cover South Coast; previous experience interviewing Doctors and Chemists essential. Apply by letter in first instance, giving full particulars of previous experience, to 28/21, Office of this Paper.

TRAVELLERS required for British Isles to call on Chemists with a well-advertised Perfume; commission allowed on returns from whole of territory allotted. Allwood Bros., Carnation Raisers, Haywards Heath.

WANTED.—A firm of Condiment and Animal Medicine Manufacturers, established 60 years, with connection amongst Agriculturalists throughout the country, desire to negotiate with a fully qualified Chemist to supervise the manufacture of the firm's products, and with the following qualifications:—

1. Clean bill of health. Age 30-35.
2. Tactful, firm but courteous.
3. Acquainted with office routine, correspondence.
4. Organiser and with sales-creating ability.
5. Knowledge of Veterinary Dispensing.
6. Capital investment.

It is absolutely necessary that applicants desiring consideration should supply the fullest information on all the above points, as well as to submit photo and approximate salary. "X. Y. Z.," 51/544, Office of this Paper.

[COLONIAL, INDIAN AND FOREIGN.]

FAR EAST.—Wanted, for the Far East, qualified Assistant first-class training essential; some Wholesale experience preferred; age not over 30; single; four years' agreement passage paid out and home. Apply "Export," 30/28, Office of this Paper.

MONTE-CARLO.—Wanted, Assistants, winter season; term fr. 750 with diploma or 700 without; 5% commission on house specialities; one day free per week; fr. 250 travelling expenses. 51/546, Office of this Paper.

WANTED, a chemical Analytical Expert for laboratory work in our refinery; must be capable of manufacturing of a large scale perfumeries, essences, toilet preparations, lotion creams, etc. Must also be capable of handling our oil refinery works. Applicants must state their qualifications, and the lowest contract scale of allowance for a period of three years certain with us. Apply to M. Narayanaswamy Naidu & Son, 145, Goringappa Naicken Street, Madras.

SITUATIONS WANTED.

RETAIL.

[HOME.]

for 18 words or less; 6d. for every additional 10 words or less, prepaid.

A.A.—CAPABLE, unqualified, 29, seeks permanency; London and North; all-round experience; excellent references; Manchester or district preferred, but not essential. 1/15, Office of this Paper.

A.A.—LOCUM; experienced; disengaged September 27; take entire charge; knowledge of Photography; highest references; abstainer; moderate salary. "Chemicus," Evans Sons Lescher & Webb, Ltd., Chemists, Liverpool.

A.A.—UNQUALIFIED, 30, good all-round experience. London, provinces, desires post. Manager, Drug stores, succession, or progressive post in high-class Pharmacy; excellent references; photo; interview. Full particulars first letter to "Capable," 31/32, Office of this Paper.

DISPENSER-BOOK-KEEPER (male) requires post as above; experienced town and country practises; disengaged. Address "Drugs," 27/33, Office of this Paper.

KEEN qualified Chemist, many years' sound experience, photo and optics; late own proprietor; married; senior or manager resident. 30/39, Office of this Paper.

ACTIVE, elderly, qualified requires position immediately. Cover or Branch; Yorkshire preferred. "Pharmacist," 133 Readfield Road, Moss Side, Manchester.

PRENTICE—Would any qualified Chemist in Birmingham or district accept young man who has had three years in retail business and wishes to change trade? Preliminary passed. Frankenburg, 63 Booth Street, Birmingham.

PRENTICESHIP—Young lady, good education and address, passed Part I Minor, seeks Apprenticeship in good-class Pharmacy; S.W. London preferred. Heavy, 119 Streatham Road, Mitcham.

AS Assistant or Manager; unqualified; age 43; thoroughly capable and trustworthy; recently sold own business; interview preferred; Sussex or near. "Sussex," 29/38, Office of this Paper.

ASSISTANT; Liverpool; unqualified; part-time or casual; experienced Dispenser; 49; small remuneration. "Calan," 61 George Street, Liverpool.

ASSISTANT, 35, thoroughly experienced, seeks berth, London district, disengaged shortly; unregistered. "B.," 24 Mead Hat, Willesden, N.W.

ASSISTANT, 21 (Part I); tall; good appearance; City experience in high-class Dispensing and Counter; London preferred. "Lapsana," 59 Wynyard Road, Hillsboro, Sheffield.

ASSISTANT; good Dispenser, Counter and Photographics; age 20; good references; September 15. West, 32 Monmouth Road, Bishopston, Bristol.

ASSISTANT—Locum or permanent; unqualified; disengaged after August 23. Hobbs, 15 Crown Hill Road, Harlesden, N.W.10.

BRANCH Manager or Locum; disengaged October 6. T. Hutchings, 11 Meanley Road, Manor Park, E.12.

BRANCH Manager; brisk business; qualified; experienced all branches, including Optics; strict integrity; London, N., or convenient to. 30/40, Office of this Paper.

BRIGHTON DISTRICT—Reliable, qualified man requires part-time three or four days weekly, or any mutual arrangement; age 32; excellent references. 30/32, Office of this Paper.

DISENGAGED September 7; excellent experience and references; moderate terms. "Locum," 221 Canterbury Street, Billingham, Kent.

DISPENSER, lady, qualified, experienced, quick and methodical, requires post; excellent references. Apply 1/540, Office of this Paper.

EXPERIENCED Dispenser; disengaged; 4½ years last situation; medical curriculum. "Dispenser," 114 Bow Road, Bow, E.3.

FEMALE Dispenser desires post October 1; Doctor or Institute; knowledge of Book-keeping, Surgery duties, and motor driving; Manchester area preferred. Crabtree, Glencoe, Edge Lane, Stratford.

FRENCH Assistant requires situation in Dispensing Pharmacy; fair knowledge of English; previous experience in French and English Dispensing and Photography; moderate salary. Thorat, 9 Northampton Park, Canonbury, London.

LADY Dispenser (Hall) requires post, Sheffield district; experienced Book-keeper; good appearance; excellent references. 29/10, Office of this Paper.

LADY, age 20, requires position with Chemist as Toilet Assistant, etc.; knowledge of Dispensary, Book-keeping; willing worker; Croydon or elsewhere; last position 15 months. 69 Bensham Manor Road, Thornton Heath.

LADY Dispenser (Hall); experienced; disengaged September; Doctor's preferred. West, 98 Belleville Road, Clapham, London, S.W.

LOCUM; disengaged till September 1; town or country; best experience; speaking French. "Pharmacist," 15 Hestercombe Avenue, Fulham, S.W.

LOCUM; qualified; disengaged 25th. Griffith, 11 Lindum Terrace, Rotherham. Phone 734.

LOCUM, unqualified, disengaged September 6, desires permanency; Stock, Counter, Dispensing, Prescribing; East London or Essex preferred; moderate salary. "Aspirin," 433 Garratt Lane, Earlsfield, S.W.

LOCUM; qualified; disengaged; 10 years' experience large public company of expert Window and Display work, clearing dead and excess stocks, organising stock control, etc.; guarantee success. "Expert," 28/38, Office of this Paper.

LOCUM, 35; thoroughly experienced; London or near; disengaged September 7. "Locum," c/o Marshall, Chemist, West Green Road, Tottenham.

LOCUM; qualified; 45 years' varied experience; free September 1. Leek, "Normanton," Victoria Road, Berkhamsted.

LOCUM; qualified; 35; West-End, City, suburban experience; September 8 to 15, October 13 onwards. Harris, 46 Brudenell Road, S.W.17.

LOCUM; qualified; 48; disengaged for September; abstainer; well recommended. "H.," c/o Mrs. Burstow, Carrier, Horley, Surrey.

LOCUM; qualified; Institutions, Hospitals, etc.; experienced and reliable; salary £6 weekly. Write "Pharmacist," 31/31, Office of this Paper.

LOCUM; qualified; male; free August 28 to September 26; good references; London district preferred. Fox, 65 St. Mary's Road, Watford.

MANAGER; qualified; age 36; married; temperate; 19 years' experience, Dispensing, Window-dressing, Photography; with view to succession or not. 281/17, Office of this Paper.

MANAGER, qualified, with good experience and excellent references; abstainer; at liberty October. "W.," c/o Earlam, Frodsham.

MANAGER; responsible berth sought; good personality; 35; 10 years Manager, City, West-End, suburban; October 13. Harris, 46 Brudenell Road, S.W.17.

MANAGER—Pharmacist, with 20 years' experience in all branches of high-class Dispensing and Retail business, requires post in London or near; used to control; living accommodation preferred. 31/39, Office of this Paper.

M.P.S., 25, Scot, good all-round experience, desires position, preferably as Manager; disengaged September 15. Forbes, 71 York Road, Ilford, E.

M.P.S., SMART, active, with long experience as Manager, requires similar post, or would entertain Locum; good organiser; general knowledge of Photo, careful Buyer, and accustomed to control; disengaged September 6. "Tristan," 204 Stapleton Hall Road, Stroud Green, N.4.

M.P.S., 27, good all-round experience, excellent references, desires post as Manager or Assistant; Staffs preferred. 31/8, Office of this Paper.

M.R. REESON recommends Pharmacist, age 28, 4 years pre-war apprenticeship; abstainer; used to managing; disengaged September 20. "A.," c/o W. Reeson, M.P.S., 80 High Street, Erith.

PERMANENCY or relief; unqualified; all-round experience, Dispensing, Agricultural, Photographics; abstainer; country preferred. Henderson, 61 Castle Street, Kendal.

PHARMACIST (minor, 1912) desires post as Manager, or pro tem. as Locum. Please apply, "Senior," 148 Albany Street, Regent's Park, N.W.1.

PHARMACIST, 33, experienced in all branches, retail, dispensing and photography, good references, desires post as Manager, with or without view to succession; at liberty. Lawrence, Market Place, Loftus.

PHARMACEUTICAL Chemist (lady); Locum or permanent; thoroughly experienced in all branches of Hospital Dispensing; disengaged after September 1. Write 26/31, Office of this Paper.

QUALIFIED, 28, height 5 ft. 6 in., willing, active, good appearance and address; fully experienced Manager or Assistant, seeks more progressive and remunerative post. F. J. W., 49 Wellfield Road, Cardiff.

QUALIFIED lady (Minor); thoroughly experienced all branches Retail; disengaged September 1. E. G. Will, 109 Ebury Street, Victoria, S.W.

SEPTEMBER 8 disengaged, experienced male Pharmacist, Locum or permanency, Superintendent, any time. "Pharmacist," 68 Grosvenor Road, Hanwell, W.7.

UNQUALIFIED, 30; good all-round experience, Counter, Dispensing, Window-dressing; used to quick trade; keen, energetic; capable of taking charge. Lydford, 29 Prideaux Road, Stockwell, S.W.

YOUNG lady desires post in Hospital or Institution; Hall qualification; Brighton or within easy distance; 8 years' experience at Chemist; disengaged September. 26/30, Office of this Paper.

YOUNG lady as Counter Assistant, windows, and stock; excellent experience; South Coast preferred. G. Delves, Furnace Farm, Hawkhurst.

YOUNG lady, 22, desires berth as Counter-hand; 3 years' London experience; bright and obliging; disengaged. 31/26, Office of this Paper.

WHOLESALE.

2s. for 18 words or less; 6d. for every additional 10 words or less, prepaid.

A FIRST-CLASS Salesman or Sales Manager, London connection, wants engagement with first-class firm. 27/26, Office of this Paper.

ADVERTISER seeks job, good experience drugs, surgical ships' medicine chests, etc.; wholesale and retail. "Salol," 37 Brunswick Road, N.15.

ALL-ROUND Retail experience, wishes progressive post with Wholesale; in or outdoors. 28/24, Office of this Paper.

CHEMIST, B.Sc., A.I.C., 24, 3 years' experience with Manufacturing Chemists, seeks position in Chemical Company. P.C.B. 89/31, Office of this Paper.

CHEMIST-REPRESENTATIVE, 30, ex-Service, B.Sc., A.I.C., experience both capacities, desires post, preferably sales, London or 100 miles; small salary, expenses and commission. Please address "A. H. B.," 48 Mayfair Avenue, Ilford.

COMMERCIAL Traveller, age 25; single; 3 years' war service; educated Public School; has also good experience as Representative, Chemists' Sundries; willing to take any post. M.L. 3985/23, Office of this Paper.

COMMERCIAL Traveller, at present engaged; good connection, London and North of England; only good berth with reliable Wholesale House considered. "Qualified," 31/5, Office of this Paper.

DRUGGISTS' SUNDRIES.—Representative, 29; 7 years' war service; sound experience as representative; has good connection London and provinces; willing to take any post. M.L. 7843/21, Office of this Paper.

EX-RANKER Officer desires position at home or abroad; accustomed to Secretarial duties, care of Medical, Surgical and other Stores, Dispensing and Accounts; snit Doctor, Hospital or Sanatorium; good organiser, and thoroughly recommended for any position of trust and responsibility. M.L. 3841/21, Office of this Paper.

LADY, Clerk-Typist (or Secretary), requires position with Manufacturing Chemist or Agents; 8 years' experience. P.C.B. 1/15, Office of this Paper.

ORTHOPÆDIC Appliances; 12 years' experience making throughout and fitting; leg instruments, spinals, splints, etc.; good appearance; accustomed to shop and visiting Institutions. 32/15, Office of this Paper.

REPRESENTATIVE, experienced, open for engagement, offers valuable and live personal connection extending over many years, Lancashire, Cheshire, North Wales, Isle of Man. Woodward, 35 Brownhill Road, Blackburn, Lancs.

RESEARCH or Plant Chemist, 24, B.Sc.; good knowledge French and German; had experience in Chemical Company. M.L. 26728, Office of this Paper.

TRAVELLER, experienced, druggists' sundries, etc.; unmarried, educated, connection—London retail druggists, grocers, chandlers, etc., also wholesalers, wants position; salary commission, in London. 30/6, Office of this Paper.

WORKS Chemist, B.Sc. Technology (Manchester), 26, single French and German; 2 years' experience as Assistant to Pharmacists; willing to take any post. M.L. 5800/23, Office of this Paper.

YOUNG lady, 20, B.Sc., 1st class chem. and botany, seek situation in chemical laboratory or office, etc.; willing to take any suitable post. Peet, 47 Grove Street, Liverpool.

MISCELLANEOUS.

10s. for 60 words; 1s. for every additional 10 words or less.

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SECOND-HAND CHEMISTS' FITTINGS.—We have an exceptionally fine selection of these in all sizes; prices are right and goods are in first-class condition; we shall be pleased to supply particulars and prices. Call or write, RUDDUCK & CO 262 Old Street, London, E.C.2.

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LIMITED Companies formed not only for Chemists and Opticians, but for any trade. Established 1905. Books, seal, etc., are included in quotation. Advice free. A. B. SLACK, 15 Christ Church Avenue, West Didsbury, Manchester.

£144.—SET of complete mahogany Shop Fittings, 7 ft. high, some Dispensing Screen, 7 ft. Wall Case, 12 Counters with cases in front, plate-glass Counter Case, two sets of Counter Drawers, 12 ft. Drug Fitting, Perfume Case, all Desk, all-glass Counter; can easily be adapted. PHILL JOSEPHS & SONS, LTD., 93 Old Street, London, E.C.1.

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WANTED.

POWEREX wanted. State lowest price to Spink, Chemist, Gateshead.

SHOP ROUNDS, recess labels, also P.J.F. Send full particulars. Vincent, 94 High Street, Clapham.

PHARMACEUTICAL Books wanted; send priced list. Gow Bookseller 41 Voltaire Road, Clapham.

SHOP ROUNDS, recessed labels preferred, Ointment Jars, etc. Personal Weighing Scale, Counter and Dispensing Scales, Mortars, Measures, etc., B.P.C. Description and lowest prices. Body's Pharmacies, Southend.

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There is a great demand now for this popular vanishing cream and it still continues to increase in public favour. Packed in opal jars with lacquered caps. P.A.T.A. 1/6. Sample, 3d.

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This is widely known and is in big demand all over. It is a fine preparation for preventing dandruff and is a valuable tonic for the hair. P.A.T.A. 1/3.

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A high-grade brilliantine delicately perfumed. Packed in handsome bottles and supplied in either green or yellow tint. A line to recommend to your best customers. P.A.T.A. 1/3.



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